SPECIALISED MASTER IN INTERNATIONAL AND DEVELOPMENT ECONOMICS

Intergenerational Cultural Transmission
The case of Turkish Immigrant in Germany

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Award date:
2019

Awarding institution:
University of Namur

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Academic Year: 2018-2019

Project presented as part of the requirements for the award of the Specialized Master in International and Development Economics

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Abstract

The objective of this study is to investigate the intergenerational cultural transmission among Turkish immigrants in Germany. Specifically, the study focused on the marriage, fertility, educational attainment and labour market participation of these immigrants over three generations. To achieve these objectives, data obtained from GESIS survey collected from 2010-2012 was analysed using descriptive and Logit regression method of analysis. The main result of the study indicates that there is strong cultural transmission mechanism among Turkish immigrants in Germany in terms of homogamous marriage, language and religion. The result implies that Turkish immigrants are exerting more socialisation effort in terms of spouse choice in the marriage market and religion in order to transmit these traits to their children. But, in terms of fertility, education and marital arrangement there is a tendency to move towards the hosting society's norms.

CHAPTER ONE

1. Introduction

Cultural transmission has been an object of studies in many fields of social science. It is an interest of study in economics since it affects several aspects of individual preferences like 'discounting, risk aversion, labour market integration and altruism' (Bisin and Verdier, 2010). Cultural transmission in economics was formally modelled by Bisin & Verdier (2000). In their model, cultural transmission is a probabilistic phenomenon in which its transmission to the forthcoming generation is determined by parental and individual preferences. They argued that cultural transmission is endogenously determined by parental and individual decisions. The implication of their model for intergenerational cultural transmission is that, the higher the effort of immigrants to socialise their children to their own cultural traits, the larger cultural diversity will be observe in the hosting society. They also assumed that parental socialisation is rationally motivated by altruism intent in which family evaluates their children's actions with their own preferences.

Children are born without well-defined preferences and cultural traits. They inherit either from their parent, which is known as "horizontal socialisation" or from community, which is known as "vertical/oblique" socialisation (Bisin and Topa, 2003). If the direct socialization of children inside the family and their cultural adaptation and imitation from society at large operate as substitutes in the cultural transmission mechanism, then there exists a heterogeneous distribution of preferences in the population (Bisin and Verdier, 2001). They also suggested that the minority (immigrants in this case) exerts a higher socialisation effort to transmit their cultural traits to their children. Therefore, Bisin & Verdier's (2000) model reasons out why we observe within countries a cultural diversity around the world today.

Following the massive inflow of immigrants to USA and Europe after the Second World War, scholars predicted that migrants would assimilate in to the destination country's culture and life style. The famous hypothesis among scholars up to 1960 was known as the 'melting pot' (Bisin and Verdier 2000). This argument implies that in the meantime, migrants would lose their home countries' cultural traits and adapt to the norms of hosting countries. It also predicts that culturally and economically heterogeneous societies tend to converge to homogenous economic and cultural traits. But many empirical literatures after 1960 revealed that migrants in America and other countries uphold to their own cultural traits instead of

complete assimilation (Benhabib et al, 2011). Studies by Herberg (1955), Glazer and Daniel (1963), Mayer (1979), Borjas (1995), Crul et al (2012), Inken & Wilmes (2015) and Penn & Paul (2009) show the existence of multiculturalism in terms of religious, ethnic, language and other traits in the USA and Europe. Bisin & Verdier (2000) also described that there is persistence of these traits outside the USA. Similarly, Bagdoshvili (2010) explained that 'cultural pluralism' in hosting countries today is mainly due to immigration from different parts of the world.

In the general case, people migrate due to three main motives: economic reasons, family reunifications/marriage & other reasons (fear of war, study, retirement, and sickness). The economic motive might be caused by unemployment, poverty and underdevelopment. These motives may not be uniform for male and female migrants. An economic motive of migration dominates for male while females migrate mainly for family reunification/marriage. For example, 75% of Turkish women migrate to Europe for family reunifications (Franchet and Gierveld, 2000).

The migration of Turkish people to Germany started at the end of World War II when Germany and Turkey signed a bilateral agreement in 1961 to recruit guest workers from Turkey. Since then, for either better job or family reunification, Turkish people have been migrating to Germany. The agreement pointed out that, the guest workers were expected to return back to Turkey after a short stay, but some stayed and became a subject to verbal attacks from the German population. The literature estimates that the generations of Turkish descendants in Germany reached up to fourth generation (Bingol, 2013).

Although they lived in Germany for many years, their integration into the hosting country's socio-economic norms remains low. For example, a study conducted by Constant et al (2009) describes that Turkish immigrants are least integrated in terms of indicators like German language proficiency, intermarriage, fertility behaviour, education and religion relative to other ethnic groups in Germany. They are not only less integrated socially, but also marginalized economically. Mueller (2006) indicates that Turkish immigrants are becoming a "parallel society" reinforced by discrimination and economic marginalisation. Due to discrimination or cultural matters, Crul et al (2012) estimated that around two million Turkish descendants are living detached from the wider German society. In the labour market also, second generations are disadvantaged in terms of high paid jobs relative to other European nationals living in Germany (Hartmann, 2014).

Therefore, it is normal to someone to ask himself how and why these people are more resilient to their cultural traits while they have lived out of their country for so many years. Therefore, studying the cultural transmission of Turkish immigrant in Germany who lived there for more than half a century is interesting. The key research question that inspired this study was: how Turkish immigrants in Germany transmit their cultural traits to their offspring. Specifically, in line with the above stated objectives, this study attempted to address the following three specific research questions: What are the marriage, fertility and education behaviour of Turkish immigrants relative to the hosting & sending countries? Is there any difference between first and second generation Turkish immigrants in terms of attachment to their country of origin cultural traits? What is the labour market participation of Turkish immigrants relative to the hosting country?

There are several studies that have been conducted on the cultural transmission of Turkish immigrants in Europe in general and in Germany in particular. Studies like Galli and Russo (2019); Ersanilli and Koopmans (2009) and Ersanilli and Koopmans (2011) examined the influence of migration policies on multiculturalism. Others like Ljunge (2012) & Stichnoth and Yeter (2013) examined the effects of the cultural traits in the country of origin on the cultural traits to be possessed in the destination country. Similarly, Kulu et al (2015) and Schmid and Kohls (2009) studied the differential in fertility between Turkish immigrants in Germany with other immigrants and the native people.

Yet, studies like Penn and Paul (2009) and Crul et al (2012) examined the cross-country cultural changes among second generation Turkish immigrants in Western Europe. They compared the dynamics of cultural integration between the first and second generation immigrants in Western Europe, including Germany. There are also some studies focused on certain cultural traits like religiosity, education, gender role attitudes and employment status of Turkish immigrants. For example, Worbs S. (2003), SÖHN and ÖZCAN (2006) & Hartmann (2014) studied the education pattern and labour market integration of second generation Turkish immigrants. Others like Milewski (2011) examined the difference in fertility behaviour between first and second generation Turkish descendants in Western Europe. The study argued that second generation's fertility behaviour resembles more that of hosting countries than that of Turks in Turkey. The overall conclusion of these studies indicates that Turkish immigrants in Europe in general and in Germany in particular are not well integrated in to the cultural norms of Europe relative to other immigrants. On the other hand, immigrant's cultural integration is becoming a very topical questions in Europe

nowadays and this study therefore focused on Turkish migrants who appear to maintain a strong Turkish identity.

Consistent with the previous studies and the descriptions of Bisin & Verdier (2000), in this study too, Turkish immigrants in Germany are found to be less integrated on some cultural traits. Cultural deviations between the German society and Turkish immigrants is attributed to the socialisation effort within a family. Using a data from the GESIS archive collected from 2010-2012, I found that Turkish immigrants are less integrated in terms of marriage, religion and language proficiency. But, on fertility and educational traits, there is a good transition towards the German society's cultural norms. Specifically, fertility behaviour is rapidly converging to that of Germany's average fertility rate as we go from first to the third generations. Intuitively, immigrants are making transition to hosting society's norms on cultural traits that are more influenced by outside socio-economic factors Therefore, in the meantime, economic factors are assumed to play a dominant role to influence fertility and education traits of immigrants than parental influence

The remainder of this paper is organized as follows: In section 2, I present literature review. Specifically, in section 2.2 and 2.3, I present theoretical literature in order to describe the theoretical underpinnings of cultural transmission. In section 2.5, I present the empirical literatures in order to identify the key cultural transmission mechanisms among immigrants. In section 3.3, I present descriptive analysis in order describe the cultural transmission among the generations of Turkish immigrant in Germany on some cultural traits. In section 3.3.2, I present the socio-economic characteristics of Turkish immigrants in order to describe their labour market participation and attachment to their country of origin. In section 3.3.3, I present the general comparison of Turkish immigrant with non-migrant and native community in order to identify the traits type on which the Turkish immigrants are making better transition to the hosting society. Finally, in section 3.4, I present the estimation results in order to explain factors promoting/deterring cultural transmission in terms of marital arrangement.

CHAPTER TWO

2. Literature Review

2.1 Definitions and Concepts

Culture is a complex and ubiquitous concept. In Anthropology, it is defined as "the whole complex of traditional behavior which has been developed by the human race and is successively learned by each generation" (Mead, cited in Birukou et al, 2013). Other definitions of culture were proposed in the literatures, but they commonly share that culture is learned, involves groups of people and mainly focuses on phenomena like norms, values, shared meanings, and patterned ways of behaving. Cultural transmission is then defined by Cavalli -Sforza et al. (1982) as "the process of acquisition of behaviors, attitudes, or technologies through imprinting, conditioning, imitation, active teaching and learning, or combinations of these". Intergenerational cultural transmission refers to the transmission of cultural ideas (values, beliefs, knowledge, practices) from one generation to the next generation (Tam, 2015). In addition to anthropology, cultural transmission has been studied by many social science fields like sociology, economics and social psychology. It is also studied in evolutionary biology. In this paper, I focused on the theories and empirical studies conducted in the field of economics and other social sciences.

2.2 Theoretical Studies in Economic Science

The first formal model of cultural transmission was introduced by Cavilla-Sforza and Feldman (1981) and Boyd and Richerson (1985). They applied the evolutionary biology approach to the transmission of cultural traits. Later, many scholars have extended their model in different fields of study. For example, Bisin and Verdier (2010) have extended this model by incorporating parental socialization effort to the field of economics.

Cultural transmission is the result of either parental influence or adopted from the community. Children are born without well-defined preferences and cultural traits. They acquire cultural traits through observation, imitation and adoption of cultural models to which they are exposed. They inherit norms of behavior, attitudes and more specifically cultural traits, like religious faith or ethnic identity from their parent (Bisin and Topa, 2003). They are first matched with their family, which is known as the "vertical transmission/socialization**".** Family socialization is mostly purposeful. **'**Parents devote time and resources to influence their children preferences, and their cultural and cognitive traits' (Bisin & Verdier, 2000).

Families shape the behavior of their children through activities like reading with children, discussing openly how to cope with problems, sending them to schools known to cultivate the desired norms of behavior and attitudes, choosing the family residence, attending and supporting the church, and other cultural groups, or sport clubs, and so on. Sometimes, socialization is also indirect and involuntary: which is known as "oblique socialization" In addition to parents, children also imitate behaviors and norms from their extended family, their friends, peers, teachers, and even acquaintances (Bisin and Verdier, 1998; 2010).

2.2.1 Cultural Transmission Model

The first formal model of cultural transmission introduced by Cavilla-Sforza and Feldman (1981) and Boyd and Richerson (1985) concentrate on evolutionary selection mechanisms in which cultural traits are either inherited by genetic transmission or imitated. In their model, cultural transmission is exogenously determined. To formally present the cultural transmission mechanism in this study, I preferred to follow the socialisation mechanism presented by the subsequent works of Bisin and Verdier (1998), Bisin & Verdier (2000), Bisin & Verdier (2001), Bisin & Verdier (2010), Bisin & Topa (2003), Bisin et al (2004) and Bisin et al (2009) which is an extension of Cavilla-Sforza and Feldman (1981) and Boyd & Richerson (1985), but differs in terms of its assumption. In their series of articles, they presented cultural transmission as a result of adaptation and imitation process which depends on the parents' socialization actions, and on the cultural and social environment in which children grow up. They also argued that parental socialisation is rationally motivated by altruism intent in which family evaluates their children's actions with their own (the parents') preferences. Hence, socialisation decisions are endogenously determined by altruistic paternalism.

For simplicity, assuming that there are two possible types of cultural traits in the population, $\{\boldsymbol{a}, \boldsymbol{b}\}$. Families are composed of two parents and one child, and both parents have the same cultural traits (they are homogamous). The core of this extreme assumption is that the socialization mechanisms of homogamous families are believed to be more efficient than that of heterogamous families (Bisin & Verdier, 2000). All children are born without well-defined preferences or cultural traits, and are first exposed to their parent's trait. If vertical socialisation is not successful, child remains 'naïve' and is then influenced by the community. Let the fraction of individuals with trait $i \in \{a, b\}$ be denoted by q^i. Socialization to the parent's trait, say trait $\boldsymbol{i}$, occurs with probability $\boldsymbol{d^i}$. If a child from a family with trait $\boldsymbol{i}$ is not directly socialized, which occurs with probability $\mathbf{1} - \boldsymbol{d^i}$, he/she picks the trait of a role

model chosen randomly in the population (i.e., he/she picks trait $\boldsymbol{i}$ with probability $\boldsymbol{q^i}$ and trait $j \neq i$ with probability $q^j = 1 - q^i$.

Let P^{ij} denote the probability that a child from a family with trait $\boldsymbol{i}$ is socialized to trait $\boldsymbol{j}$, and hence also the fraction of children with a type $\boldsymbol{i}$ parent who have preferences of type $\boldsymbol{j}$. The socialization mechanism is then characterized by the following transmission probabilities, for all $i, j \in \{a, b\}$:

$P^{ii} = d^i + (1 - d^i)q^i$; $P^{ij} = (1 - d^i)(1 - q^i)$ (1)

$P^{jj} = d^j + (1 - d^j)(1 - q^i)$; $P^{ji} = (1 - d^j)q^i$ (2)

The cultural transmission probability that a child inherit parent's trait is proportional to the fraction of population with that trait. This implies that cultural transmission is more efficient if parental trait is similar with the trait in the population.

2.2.2 Cultural Dynamism:

Assuming that people live for two periods and each family has one child, if $\boldsymbol{q^i_t}$ is the fraction of the population with trait $\boldsymbol{i}$ at time t and given the transmission probabilities $\boldsymbol{P^{ij}_t}$; following Ridinger (2018), the change in the fraction $\boldsymbol{q^i}$ of adult individuals of type $\boldsymbol{i}$ between period t and $\boldsymbol{t+1}$ is:

$$q^i_{t+1} - q^i_t = -q^i P^{ij} + (1 - q^i)P^{ji}$$

Substituting P^{ij} and P^{ji} and rearranging, we have:

$q^i_{t+1} - q^i_t = -q^i[(1 - d^i)(1 - q^i)] + (1 - q^i)[(1 - d^j)q^i]$

$q^i_{t+1} = q^i_t + q^i(1 - q^i)[d^i - d^j]$ (3)

If $(\boldsymbol{d^i - d^j}) > 0$, cultural transmission will be in favour of trait $\boldsymbol{i}$, due to its differential vertical socialization. This transmission is high when there is enough variation in the population, which is captured by the term $q^i(1 - q^i)$, reflecting the variance of types in the population (Bisin & Verdier., 1998). The stationary state of the population dynamics $\boldsymbol{q^*_t}$ is culturally homogeneous if either $q^{i*} = 0$ or $q^{i*} = 1$. The stationary state $\boldsymbol{q^{i*}}$ is culturally heterogeneous if $0 < \boldsymbol{q^{i*}} < 1$. If the direct socialization of children inside the family and their cultural adaptation and imitation from society at large operate as substitutes in the whole cultural transmission mechanism, then there exists an heterogeneous distribution of preferences in the population, which is globally stable (Bisin and Verdier, 2001).

Bisin & Verdier (2010) argued that if $\boldsymbol{d^i}$ & $\boldsymbol{d^j}$ are endogenously determined, the stationary state population dynamics, $\boldsymbol{q^{i*}}$, is culturally heterogeneous. When parents and community are substitutes in the transmission mechanism, in fact, families will socialize their children more intensely whenever the set of cultural traits they wish to transmit is common only to a minority of the population; and, on the contrary, families which belong to a cultural majority will not spend much resources in directly socializing their children, since their children will adopt or imitate with high probability the cultural trait most predominant in society at large, which is the one their parents desire for them. If the parent and the role model are complementary the child is directly socialized to their common trait, otherwise the child is matched a second time randomly with a role model from the population, and adopts his/her trait. Subsequent papers written by Bisin and Verdier on economic cultural transmission show that the population dynamics of cultural traits converges to a culturally heterogeneous population.

2.2.3 Socialisation Problem of Parents

Parents want to maximize the expected utility of their child based on the potential payoffs from socialising to specific traits. If vertical socialisation is the result of family effort, then, such effort determines endogenously the direct family socialization, $\boldsymbol{d^i}$ (Bisin & Topa, 2003). To formulate the socialisation problem of parents and hence determine $\boldsymbol{d^i}$, I assume again that parents are altruistic towards their children but attempt to socialize them to their own specific cultural trait. This assumption is called *"imperfect empathy"* or paternalistic altruism. Parents are aware of the different traits children can adopt and are able to anticipate the socio-economic choices a child with trait $\boldsymbol{i}$ will make in his or her lifetime. However, parents can evaluate these choices only through the filter of their own subjective evaluations and cannot 'perfectly empathize' with their children. As a consequence of imperfect empathy, parents, while altruistic, tend to prefer children with their own cultural trait and hence attempt to socialize them to this trait.

However, parental socialisation involves some costs. Assuming that socialization is costly and let $\boldsymbol{C}(\boldsymbol{d^i})$ denote the cost of parental socialisation effort $\boldsymbol{d^i}$. $C'(d^i) > 0, C''(d^i) > 0, C(0) = 0, (C(0)) = 0, \lim_{d^i \to 1} C(d^i) = \infty$. That is, the marginal cost of socializing a child is positive and increasing. It is further assumed that $\boldsymbol{C}(\boldsymbol{d^i})$ and $C'(d^i)$ are continuous functions. Let $\boldsymbol{U^{ij}}$ denote the utility to a type $\boldsymbol{i}$ parent of a type $\boldsymbol{j}$ child, where $\boldsymbol{i, j} \in \{\boldsymbol{a, b}\}$. The formal assumption is: for all i, j with $i \neq j$, $U^{ii} > U^{ij}$

By the law of large number, the expected utility that a family of type $\boldsymbol{i}$ receives from a child that is socialised to trait $\boldsymbol{i}$ is;

$$E(U) = P_t^{ii}U^{ii} + P_t^{ij}U^{ij} \Rightarrow \{d^i + (1-d^i)q^i\}U^{ii} + \{(1-d^i)(1-q^i)\}U^{ij}$$

$$= ([d^i + (1-d^i)q^i]\Delta U^{ii} + U^{ij})$$

Formally, each parent with preferences of type $\boldsymbol{i} \in \{\boldsymbol{a}, \boldsymbol{b}\}$ at time $\boldsymbol{t}$ chooses $\boldsymbol{d^i}$ to maximize this expected utility:

$$W^i = \left[P_t^{ii}U^{ii} + P_t^{ij}U^{ij}\right] - C(d^i) \text{ or}$$

$$W^i = \max_{\{d^i \in (0,1)\}} [\{d^i + (1-d^i)q^i\}U^{ii} + \{(1-d^i)(1-q^i)\}U^{ij}] - C(d^i)$$

subject to

$$P^{ii} = d^i + (1-d^i)q^i;\ P^{ij} = (1-d^i)(1-q^i \qquad (4)$$

Assuming for simplicity a quadratic socialisation cost, $\boldsymbol{C(d^i) = \frac{1}{2}(d^i)^2}$**;** this gives,

$$d^i = d(q^i, \Delta U^i) = (1-q^i)\Delta U^i \qquad \textbf{(5)}$$

where $\Delta U^i = U^{ii} - U^{ij}$ is the subjective utility gain of having a child with trait $\boldsymbol{i}$; it reflects the degree of 'cultural intolerance' of type $\boldsymbol{i's}$ parents with respect to cultural deviations from their own trait (Bisin & Topa, 2003). The more `intolerant' a parent is, the larger incentives to socialize their child to their own trait will be (Bisin & Verdier, 2001). Given the imperfect empathy on the part of parents; $\boldsymbol{\Delta U^i > 0}$, by equation (3). When $U^{ii} > U^{ij}$, parents would have more incentive to socialize their children to their own trait.

The socialisation effort of parents to their own trait, d^i **,** is a decreasing function of population, $\boldsymbol{q^i}$, with that trait. The larger the fractions of population with trait $\boldsymbol{i}$, the better the children are socialised to trait $\boldsymbol{i}$ by the outside social and cultural environment (more obliquely socialised) (Bisin et al, 2009). Symmetrically, the larger the fractions of population with trait $\boldsymbol{j}$, the higher the effort of parents to socialise their children to trait $\boldsymbol{i}$ will be. In other word, minorities will exert more socialization effort than majority to transmit their own trait to their off-springs.

2.3 Cultural Transmission Mechanisms

Cultural transmission across generations takes place through different channels. Education decision, family location decisions, and marriage choices are the most common channels mentioned in the literature.

Ethnic and religious minorities attempt to preserve their religious and cultural traits through strategies like marrying with a spouse within the same religious denomination, participating in religious ceremonies, conferences, wearing traditional and religious clothes and congregating in segregated communities. The role of schooling on cultural transmission is formally described by (Cohen-Zoda, 2006). The paper describe that many religious households in the United State send their children to religious schools in an effort to preserve the religious identity of their children. Therefore, minorities spend on religious schools in order to transmit their religious trait to their children. Religious parents send their children to private religious schools to shelter them from outside influences and preserve their religious identity.

Cohen-Zoda (2006) also argued that "when the share of the religious group in the local population is larger, outside influences are less threatening, and so their need for private religious education decreases. Thus, the share of the religious group in the population has two opposite effects on the demand for religious schooling. On the one hand, holding constant the proportion of parents from the religious group who send their children to religious schooling, there is a positive linear relationship between the demand for religious schooling and the share of the religious group in the general population. On the other hand, as the share of the religious group in the population grows, a smaller share of parents from the religious group chooses religious schooling. This pattern implies a concave relationship between enrolment in private and religious schooling and the share of the religious group in the population".

Cohen-Zoda assumed that a household drives utility from consumption good $\boldsymbol{c}$, from the quality of their children's education, $\boldsymbol{x}$, measured according to spending-per-pupil (the quantity of education is the same for all households) and from the probability that their children will share their religious orientation, $\boldsymbol{s}$. The utility function is then;

$$U(c,x,s) = \alpha c^{\delta}/\delta + (1-\alpha)x^{\delta}/\delta + \gamma s^{\delta}/\delta \qquad (6)$$

where $\alpha, \delta \; and \; \gamma$ are common, fixed parameters. He also assumed that the religious values children acquire are influenced by the home, by the school they attend, and by the neighbourhood in which they live.

Specifically, the probability that a child will become religious equal to:

$$\pi_i^R = \omega k_i + (1-\omega)e_i \qquad (7)$$

where k_i denotes the religious orientation of the parent, e_i denotes the environment (school/ neighbourhood) effect on the child, and ω represents the relative impact of the home on child religiosity, $0 < \omega < 1$. The higher the value of k and e implies that parents and school are more religiously strict and therefore, can influence the religiosity behaviour of children to a large extent.

A religious household that sends its child to a religious private school chooses c & x to maximize:

$$Max\ U(c,x,s) = \alpha c^{\delta}/\delta + (1-\alpha)x^{\delta}/\delta + \gamma s^{\delta}/\delta$$

s.t $\quad c + xp = y_i$

And has indirect utility

$$V_R(y_i) = g_o(\alpha, p, \delta)\, y_i^{\delta}/\delta + {}^{\gamma}/_{\delta}$$

Where p denotes cost per student of a unit of quality & y_i represent income after tax.

For a given exogenous public school ($\bar{x}$) quality, either all religious households prefer public education, or there exists a threshold income level

$$y_R(\bar{x}, r, \omega) = [y_N^{\delta} + \frac{\gamma}{g_o - \alpha} * \{[\omega + (1-\omega)r]^{\delta} - 1\}]^{1/\delta} \qquad (8)$$

such that all religious households with incomes below $\boldsymbol{y_R}$ send their children to public school, and all those with incomes above $\boldsymbol{y_R}$ send their children to religious school. Thus, the share of religious households who send their children to religious education is:

$$\theta_R = 1 - F(y_R(\bar{x}, r, \omega))$$

which is a decreasing function of the size of the religious group (r) in the population. That is, as the share of the religious group in the population grows, outside influences become less threatening. Thus, the probability that a child will become religious without religious schooling increases. Consequently, parents' religious motivation for sending their children to religious schools weakens, and a lower percentage of households from the religious group send their children to religious schooling.

Bisin & Verdier (2000) and Bisin et al (2004) described another transmission mechanisim, which is known as marriage channel, through which effective cultural transmission can take palce. According to their argument, the choice of couple is mainly motivated to preserve one's cultural traits. They argued that families in which parents share the same cultural trait (homogamous marriage) enjoy a more efficient socialisation than heterogamous families (Bisin & Verdier, 2000). Homogamous marriage is the rational choice made by couples in the marriage market in order to transmit their cultural traits to their offspring. In the marriage market, the choice of mate may be influenced by religion, ethnicity/tribe/clan and nationality of the couple.

The desire to socialise children to their own traits would drive the equilibrium marriage rate to the homogamy level in the absence of search cost. This tendency causes the dynamics of population with heterogeneous cultural traits in equation (3). If each person looks for a mate that matches with his/her traits, the population will end up with multicultural society with stationary steady state level; $0 < \boldsymbol{q}_t^* < 1$

They argued that "the cultural transmission mechanism just delineated produces different behaviour for cultural minorities and majorities with respect to their effort to marry homogamously and to socialize children to their own trait. Minorities, other things equal and in equilibrium, have more highly segregated marriage markets, and more intensely exercise effort in directly socializing their children. Intuitively, since the population at large is mostly populated by majority types, a member of a minority cultural group is likely to marry heterogamously if he/she does not enter a restricted marriage pool composed of members of his/her same cultural group (e.g., if he/she does not attend church and live in a segregated neighbourhood)" Moreover, a minority type in a heterogamous marriage will have difficulty transmitting his/her own traits, since the spouse will favour a different set of traits, and peers and role models will be taken from a population mostly of the majority types. For both reasons, individuals from the cultural minority have higher incentives to marry homogamously and to exert direct socialization efforts in order to transmit their cultural identity to their off-springs. In other words, minorities rationally react to the assimilation of the melting pot" (Bisin & Verdier, 2000).

In addition to parental socialisation, it is assumed that children are exposed to traits in the community with a probability *of* $(\mathbf{1} - \boldsymbol{d}^{\boldsymbol{i}})(\mathbf{1} - \boldsymbol{q}^{\boldsymbol{i}})$ in equation (4). This is known as the "oblique transmission". This probability is determined by the influence of the peers, friends

and exposure to the community. Parent's decisions can also influence this probability by isolating family residence location. When children are isolated from the community, the probability that the child is socialised to parent's trait will be high. The influence of the peer/oblique transmission is studied by (Sáez-Martí and Sjogren, 2008). They argued that young agent is randomly matched to one role-model from whom the trait is imitated with a certain probability.

In general, cultural transmission from parent to children can take place in any/combinations of these transmission mechanisms. Children, therefore, can adopt a given cultural trait from their parents directly or from the role model in the community. Hence, homogamous marriage, preference for religious school or self-segregation can be a strategy played by parents to determine the effective transmission of their cultural trait to children.

2.4 Other Social Science theories of Cultural Transmissions

In addition to the theories of socialisation in economics, there are also some other theories of cultural transmission in the fields of social science like in sociology, anthropology and psychology. Here after, I present few of them briefly.

i) Assimilation Theory

Assimilation theory is, in many respects, the classic formulation of the process of incorporation of international migrants into a host society (Penn and Paul, 2009). This is a strategy followed when individuals do not wish to maintain their own culture and adopt the national one (Berry, 2001). It was first developed by two of the founders of the Chicago School, Park and Burgess (1921) in the early twentieth century. They characterised assimilation of international migrants as a process 'in which persons and groups acquire the memories, sentiments and attitudes of other persons and groups and, by sharing their experiences and history, are incorporated with them in a common cultural life'. They saw assimilation as having a series of stages but as ultimately inevitable.

As explained in Algan et al. (2012), cultural assimilation involves three main features. First, culturally heterogeneous ethnic groups gradually come to a common culture along which they have common access to socio-economic opportunities. Second, difference in cultural traits starts to disappear in favour of the new culture. Third, once set in motion, the process moves inevitably and irreversibly towards complete assimilation. 'Hence, diverse immigrant groups are expected to 'melt' into the mainstream culture through an inter-generational process of cultural, social, and economic integration' (Algan et al, 2012).

Penn and Paul (2009) described that "international migrants and their descendants moved over time from their initial insertion in poor, inner-city areas through working-class neighborhoods to suburban middle-class districts. This process was facilitated by the educational attainment and ensuing occupational mobility achieved by the children and grandchildren of the original international migrants. Ultimately, such descendants became absorbed into the dominant culture of the American society and became incorporated into the American 'mainstream". Therefore, assimilation theory argues that the long-run dynamism of population will converge to a culturally homogenous population. However, this theory is disproved by many empirical tests conducted in the US America and Europe.

ii) Multiculturalism Theory

Following the failure of the 'melting pot' hypothesis in North America, new perception towards cultural diversity started to grow among Americans & in Western Europe. 'The period since has been characterized as one in which there has been an increasing acceptance of pluralism and diversity with a strong sensitivity to ethnic 'difference', particularly among official agencies dealing with post-1945 international immigrants and their descendants in Western Europe and North America' (Penn and Paul, 2009). Berry (2001) used the term integration to define cultural pluralism. According to him, the integration strategy is played "when there is an interest in both maintaining one's original culture and engaging in daily interactions with other groups. Integration is the option; here, some degree of cultural integrity is maintained, while at the same time immigrants seek, as a member of an ethnocultural group, to participate as an integral part of the larger society. Multiculturalism suggests the continuous interaction between the culture of immigrants and the hosting countries, but it never disappears as in the case of assimilation.

Another type of multiculturalism is ethnic inclusion. Accordingly, international migrants and their descendants attain the same socio-economic profile as the host society but do not lose key identifying and cultural aspects of their ethnic identity as postulated by assimilation theory. This is the ideal of most multiculturalists (Parekh, 2005; Modood et al., 2007).

iii) Self-segregation Theory

In contrast to assimilation strategy, when immigrants place a value on holding on to their original culture and at the same time wish to avoid interaction with others, then the separation alternative is defined. Portes (2001) argued that the best strategy for some international migrant groups (such as Cubans in Florida) involved the maintenance of strong physical,

linguistic and cultural barriers within the receiving society. “He suggested that, rather than following an assimilationist strategy or the weak form of ethnic ties involved in the model of ethnic incorporation, international migrants maximized their social and cultural capital by remaining within an ethnic enclave”.

iv) Marginalization Theory

When there is little possibility or interest in cultural maintenance (often for reasons of enforced cultural loss) and little interest in having relations with others (often for reasons of exclusion or discrimination), then marginalization is defined. In literatures, other concepts like segmented assimilation, transnationalism & hybridity are mentioned to describe the acculturation possibilities of immigrants (Penn and Paul, 2009).

In general, these four alternative theories of cultural transmission are similar to that of Bisin and Verdier model in that cultural transmission is determined endogenously. In the case of Bisin and Verdier’s model, cultural transmission is studied and explained at the household level. For them, cultural transmission is determined by parental and individual preferences. In the case of the assimilation, integration, marginalisation and segregation theory; cultural transmission is defined at community level. Hence, cultural transmission/integration is determined by community’s decision which in turn is determined by preference between their own culture and the culture of hosting societies. If a particular community is more conservative towards their cultural values, they may prefer to live in separated area from the hosting society. This decision in turn influences the cultural transmission process to their children. This tendency is also observed among Turkish immigrants in Germany (Crul et al, 2012). They described that around two million Turkish descendants are living detached from the wider German society

In this study, cultural transmission is determined by parental decisions and partly by the community’s preferences. For example, in the case of marriage, there is a large fraction of peoples who married through arranged marriage which is made either by parents or relatives. In case of language, the lack of full integration in to the German society could also be associated with self-segregation of the Turkish community from the German society. In terms of religion also, I found that there is large disparity between the Turkish community and German society. Therefore, a higher socialisation effort of families and societal self-segregation could be the cause for strong cultural transmission mechanism among Turkish immigrants in Germany.

2.5 Empirical Studies on Cultural Transmission

In this section, empirical studies conducted in the areas of cultural transmission and the applications of those theoretical models described above is presented. I tried to revise studies conducted in the areas of both economics and other fields of social science.

Bisin et al (2004) identified that people in the US of America showed strong resilience in terms of marriage and religious traits. They suggested that the probability that a Protestant, Jewish and Catholic family has a protestant, Jewish and Catholic child is estimated around 95%, 93% and 85% respectively. The implication of their finding is that parents in the USA had exerted more socialisation effort to transmit their cultural traits to their children. For example, Bisin & Topa (2003) found that the probability of direct socialization levels for homogamous Jewish families is roughly 90 percent.

Cohen-Zoda (2006) has confronted his model (described in section 2.3 (a)) with data and found that parents send their children to religious school to preserve their religious identity. His finding also shows that the propensity of a Catholic parent to send their children to Catholic schooling diminishes as the share of Catholics in the population increases. This implies that in areas where the share of Catholics is smaller, a higher share of Catholic parents are more likely to send their children to religious school. This conclusion is in fact derived from the model presented in section 2.3. The model suggests that parental socialisation effort is a decreasing function of the size of population with that specific trait.

However, there are certain contradictions in the literature on the effectiveness of parental socialisation to religious traits. For example, Clark et al (1986) believe that parental religiosity is the key factor in determining the religiosity of one's offspring. Similarly, Nooney (2006) found that high levels of parental involvement in religion were associated with more effective transmission of religious affiliation. Religious homogamy among parents, good parent-child relationships, and conservative Protestant or Catholic background resulted in effective transmission of religiosity to offspring. However, the result of Hoge et al (1994) reveals the negative relationship between family religiosity and church involvement of children. Another contradiction comes from the result of Nelson (1980). He found that a positive relationship between parent and adolescent has no impact on the religious transmission. Yet, Francis and Brown (1991) found that parental income, education and class had no significant effect on child religiosity.

Fuligni et al. (2015) studied the socialisation of adolescents to valuing of family obligations among Mexican-American adolescents. Their result shows that socialisation to this trait is more effective when the parent- child relationship is smooth and it is low when they are in conflict. Their study tells us that Children's socialisation to parental traits is thought to be optimum when children grow up in a good relationship with their parents. Family socialisation also dominates peer socialisation in shaping the ethnic identity formation of Mexican descendant adolescents (Reinhard, 2010).The study conducted by Okagaki et al (1999) also supports this finding, and also investigates parental socialisation to religious trait.

In terms of secularization, Bar-El et al. (2013) found that a religiously homogamous family has a significant negative effect on secularization of offspring. But, Storm and Voas (2012) found that secularisation is expanding and parental effort is becoming less effective in socialising their children. The study conducted by Lecce (2016) suggests that vertical cultural transmission can still be possible within heterogeneous couples. He argued that a child will be socialised to the dominant trait within a family, but it requires higher socialisation effort.

Another channel of cultural transmission is marriage choices. Bisin & Verdier (2000) argued that religious and ethnic 'assortative mating' is motivated by individuals' preference to socialize their offspring to their own traits. Families in which parents are homogamous enjoy a more efficient socialization than heterogamous families. Therefore, each individual's choice of marriage mate crucially determines his/her ability to transmit his/her set of cultural traits to their potential children. Research conducted by Kalmijn (1998) shows that racial intermarriage is high among Asian and Hispanic Americans. The same study indicates that there is strong religious intermarriage among Catholic (62%), Protestant (84%) and Jewish (60%) followers in the United State of America. A similar study conducted by Carol (2014) shows that parental attitudes is positive towards interethnic social contacts of their children, but aggressive towards intermarriage with other ethnic groups.

Studies also show that Turkish immigrants are more conservative in intermarriage and sexuality. Kalmjn and Kraaykamp (2017) explained that first and second generation Moroccan and Turkish immigrants have more conservative attitudes towards marriage and sexuality than the native community. In most cases, they marry their own country of origin mate and even sometimes import couple from Turkey (Ferrer, 2005). Similarly, Windzio and Aybek (2015) also found that Turkish descendants live together with their parents even after marriage. Other study conducted by Milewski (2003) also show that assortative marriage (in

terms of religion & education) is high among immigrants in Germany including the Turkish immigrants. On the other hand, Milewski and Kulu (2015), found that the divorce rate between German born individuals and immigrants is higher than between two-German born or between immigrants of the same country. Like other immigrants, Turkish immigrants in Belgium are motivated to transmit their culture over generations because they considered it as their heritage (Gungor et al, 2011).

One of the cultural transmission mechanism is locational decision/self-integration or segregation. Parents can transmit their cultural traits to their children through self-segregation. For example, Nájera (2009) described that this mechanism is almost become custom among Mexican immigrants in the United State of America. Immigrants' desire to transmit their cultural trait to their offspring is also motivated by "the appreciation of their culture of origin and the desire to maintain it and pass it on to the next generation" (Mchitarjan and Reisenzein, 2013). The decision to assimilate depends on several factors like migration policy/regulations, hosting countries social attitude and economic factors. For example, Galli and Russo (2019) found that restrictive immigration policies may have the unintended consequence of delaying the intergenerational process of cultural assimilation in Germany.

In some countries, Turkish immigrants followed the self-segregation strategy to maintain their culture. In Sweden, they were not well integrated and preferred to live in segregated areas, closed and small areas even when the country's policies encourage multiculturalism (Bayram, et al., 2018). But also, Ersanilli and Koopmans (2009) explored that ethnic retention is strong in countries where policies encourage multiculturalism and negative in countries where migration policies oblige host culture adoption like in France. However, some studies show that immigration policies have only a modest effect on immigrants' degree of adoption and retention (Ersanilli and Koopmans, 2011). Instead, other economic and social factors explained adoption/retention of host cultures.

First generation migrants hold the gender attitudes of their home country, but second generations reflect more the gender attitude of destination countries (Pessin and Arpino, 2018). Another paper supporting this argument was conducted by Mesoudi (2018). It shows that complete one generation assimilation is rare, but multiple generation acculturations to hosting country's culture is common. He also showed that acculturation rate differs across traits. In terms of religion, he has not observed much variation across generations relative to other aspects of traits. Similarly, Jacob and Kalter (2013) and Roder (2014) described that the

religiosity of new children of immigrants are either stable or increasing in case of Muslim immigrant families while diminishing in case of Christian immigrants in England, Germany, the Netherlands and Sweden.

On other hand Hanna and Phalet (2007) found that there is intergenerational differences on views about gender role within a family of Turkish immigrant in Germany. They described that second-generation daughters showed a significant shift towards more egalitarian values, but sons remained as conservative as their fathers relative to first generation. They also found that most egalitarian values among daughters of more highly educated and more egalitarian mothers, but, father's religious socialisation goals and the perception of discrimination reinforce conservative values in sons.

Turks who went back to Turkey and non-migrant Turks have more traditional view on gender equality than the youth that grew up in Europe (Spierings, 2014). Kretschmer (2017) also described that the native–Turkish migrant gap in gender role attitudes is attributed to migrant parents' more traditional attitudes and a strong transmission of attitudes across generations. Yet, Diehl et al (2009) argued that for both Turkish immigrant and native Germans, higher religiosity is associated with lower egalitarian gender role attitudes.

In Germany, there is disparities between Turkish immigrants and the native society in labour market participation (Ray, 2017). His result shows that there are wage discriminations between the Turkish and natives in the German labour market. The paper explores that the unemployment rate among Turkish immigrant is almost twice that of the native Germans. Low level of education, prejudice, stereotypes, employer's perception about their punctuality, loyalty and other traits are sometimes considered as the constraining factors (Lodigiani, 2016). In terms of education, Turkish origin students are also less successful in Germany. Their academic achievement and competence is much lower than that of the native students (Söhn & Özcan, 2006). This in turn hampered their integration in to the labour market.

Studies also show that Turkish immigrants are not well included in the labour market and education sector as other country's immigrants. For example, Worbs (2003) described that children of Turkish migrants are the most disadvantaged group among the second generation immigrants in Germany.

One dimension of traits that crosses one generation is fertility choice. The fertility behaviour of country of origin has significant impact on the fertility decision of first and second generation immigrants in Germany (Stichnoth and Yeter, 2013). However, it decreases over multiple generations. They also described that the effect is stronger for women with low education and who live with a partner from the same country of origin. The fertility rate is higher among Muslim women immigrants than other religion followers and partners coming from the same country of origin (Schmid and Kohls, 2009). The findings of Kulu et al (2015) also support this finding in that they described that the fertility of immigrants' descendants in Europe are larger than that of native women but less than their parents.

In general, these studies shows different patterns of cultural transmission for different types of traits. In terms of religiosity and intermarriage, these studies show that immigrants are more conservative and less integrated with the hosting society. However, in terms of fertility, gender role attitudes, the integration process is gradually moving towards the norms of hosting societies. Alternatively speaking, on traits that can be directly influenced by economic factors, there is good transition to the hosting society's cultural norms. Similarly, in countries where there are large number of same ethnic groups of immigrant, there is slowdown of cultural transmission process. Besides that, the literatures described that the integration process is determined by immigration policies and socio-economic factors. The studies also described that education achievement can play a significant role in deterring /speeding up the rate of integration process on some traits.

CHAPTER THREE

3. Cultural Transmission among Turkish Immigrants in Germany

3.1 Historical Background

At the end of the Second World War, Germany has experienced a shortage of workers during its period of "economic miracle". To fill this gap, firms started to recruit workers from Eastern Europe and other countries through legal agreement. Turkish people immigration to Germany, then, is the result of this demand for labour in western Germany, following the bilateral agreement signed between Germany and Turkey in 1961.The aim of the contract had double advantage for Turkey: reducing the unemployment rate and improving the balance of payment through remittances (Orendt, 2010). These recruited workers from Eastern Europe and Turkey were called "guest workers", which means that their stay in Germany was only temporary and based on "stay-and-return migration" in what was called the "rotation model" (Constant et al, 2009).

By the late 1960's, sustained economic growth and slow demographic growth have also attracted a huge inflow of guest workers to Germany with subsequent dependence of the German economy on guest workers. During these periods, not only the native Germans but also immigrants were fairly benefiting from economic growth. Following the economic recession caused by the oil crisis in the beginning of 1970's, however, the German government was forced to change its immigration policy. In 1973, the guest worker recruitment was officially banned, but a law that allows family reunification was introduced in the same year and ended in the 1980s. According to this law, Turkish immigrants were allowed to bring their spouses and non-adult children to Germany (Oner, 2014). Consequently, the profile of the migrants has shifted from young male to women and children who moved to Germany to join their husbands and fathers, creating a strong second generation of immigrants (Constant et al, 2009). Political instability in Turkey during 1973 also contributed to the mobility of Turkish people to Germany.

Even though family reunification was formally ended in the 1980s, the trend of immigration through family formation is still continuing. Turks from the second and third generation living in Germany are still looking for spouses in Turkey and bringing them over. Nowadays, it is the most common way of immigration from Turkey and the easiest way to get over the barriers from restrictive immigration policy. In the 1980s, asylum seekers also escaped to Germany during the military regime in Turkey (Oner, 2014).

Currently, Turkish immigrants are the largest immigrant ethnic group in Germany, with 3.5 million individuals. Those women who moved to Germany to join their spouse were not well-oriented for life in Germany. They often came with no education, no language skill and qualifications. As a result, they were completely isolated from the German society. It was not only the problem of language that isolated the Turkish community from German, but also due to the perception among Turkish workers and the native people. The guest workers were supposed to return to Turkey after a short period of stay and hence the effort to integrate in to the hosting community was very low. Family's poor German language proficiency had also affected the labour market and school integration of second and third generation.

Some of the Turkish guest workers decided to stay in Germany after their contract expired. There were several reasons for their decision: they wished better education for their children. Besides that, they have no saving or economic foundation in Turkey, which would enable them to start a fresh business. The negative experiences of some returnees also deterred them (Orendt, 2010). Change in Technological and social environment is also another factor that made them stay. The changes in telecommunication technology reduced the distance between the host country and the country of origin. Turks in Germany can watch some TV channels as in Turkey and the phone calls to Turkey are much cheaper and easier than before. Furthermore, the huge amount of Turks who is already living in Germany was always one more reason to stay permanently there. Therefore, they can create their "little Turkey" in the middle of Germany with an infrastructure for their special needs and demands.

3.2 Data and Methods of Analysis

In this study, survey data obtained from "GESIS data Archive" on Turkish immigrants was filtered and used. It was collected and organised by Dr. Ayse Guveli and his research team on the story of 50,000 Turks from 2000 families over three generations. The information was about men who were born between 1925 & 1945, migrated from 5 main sending regions of Turkey to Europe in the 1960s and also who stayed behind. The survey also collected information on the impact of migration on the lives of first migrants, the lives of their children and their grandchildren no matter where they ended up in the world. Therefore, Turkish immigrants in Germany in this study are the first generations, their children and grandchildren. Similarly, the survey also collected informations on first to fourth generations of non-migrants and internal migrants within Turkey. To be precise, in the survey, first generations are those whose age are between 65 and 90 years old, who migrated or stayed and

are still alive or dead. Second generations are the children of first generation who were born and are living in either Turkey or Germany. Third generations are the children of second generation/grandchildren of first generation who were born and are living in either Turkey or Germany. For this study, immigrants refer to those Turkish descendants who were born either in Turkey or Germany, but who live in Germany during the survey period.

For this study, a total of 636 observations were extracted from the 'GESIS data Archive'. This size was distributed to the three generations according to the availability of information on the main variables of interest. 56 for first generation, 394 for second and 186 for third generation observations were employed. However, for the descriptive analysis part, more than the above sample size were employed. Based on the research question and objectives of the study, both the descriptive and an econometric regression analysis were employed.

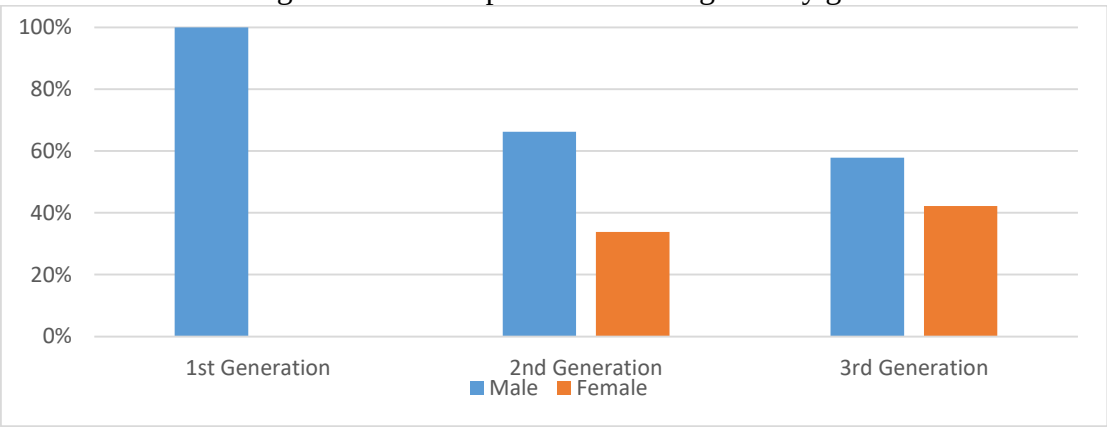
3.3 Descriptive Analysis

This section presents the demographic and socio-economic characteristics of Turkish immigrant in Germany. I only focused on the traits that are theoretically and empirically sound and discussed in chapter two. The key variables of interest in this study are then: fertility, education, religion and the marriage characteristics of each generation of Turkish descendants in Germany. Comparison of these immigrants' characteristics with that of non-migrants and internal migrants in Turkey and Germany is also described and discussed at the end of this section.

3.3.1 Demographic characteristics of Turkish Immigrants in Germany

a) Gender: From figure 1 below, the first generations are fully dominated by male immigrants. This might be due to the selection bias towards male during recruitment and the nature of the survey. The type of job that the recruited workers were expected to do required more endurance and hence, biased the migration towards male. However, in the second and third generations, there is a substantial number of women in the destination area. In the third generation, the number of male and women in the destination country (Germany) is almost the same. The gradual increase in the number of women immigrants may be attributed to family reunification that was allowed in the 1980s and higher fertility among the first generation migrants.

Figure 1: Sex composition of immigrants by generation



Source: own computation from GESIS_ ZA 5957

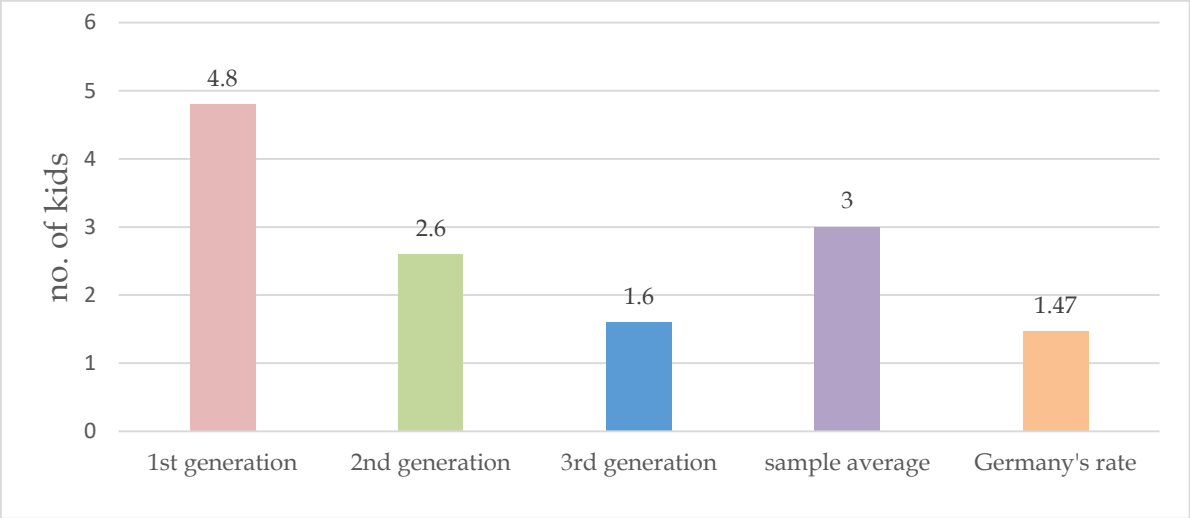
b) Fertility: Fertility behaviour is one trait that children inherit from their parents. In a society where children are considered as blessings and the gift of God, there is high a tendency of having more kids. The preference for more children is also determined by other factors like peer pressure and religion. For example, the bible says "be fruitful and multiply" and in some Muslim society, the use of contraception is also prohibited and hence, encourages fertility. Therefore, a child who is shaped and grown up by such attitudes towards fertility may show positive preference for more kids during adulthood.

When we consider the fertility behaviour among Turkish immigrants in Germany on figure 2, on average, each parent has three kids per woman. The value differs across generations. The first generation have relatively more kids than second and third generation. To make the comparison more convenient, I emphasised on fertility behaviour of women whose age is≥ 25 year old. As shown on figure 2 below, the tendency of having more kids is decreasing as one goes from first to third generations. Therefore, the preference for having more kids is declining and it is closer to that of the German population as we go from first to third generation. This shows that as we move from first to successive generations, the influence of parents on their children's' fertility decision declines. The second generations are more similar to their parent's fertility traits, while that of third generation's fertility has decreased dramatically.

The lower fertility in the third generation cannot fully be conceived as due to their preference for less kids, rather it could be also due to their age structure. In the survey, many of the third generations are young (their average age is at 24.4 years) and 32% of them were not married (see table 1). Therefore, the average kids per this generation will be lower relative to their parent and grandparent.

The possible justification for the decline in fertility behaviour of the Turkish immigrants over generations can be also explained by some socio-economic conditions at work in the hosting community. Economic and social influence could explain more than the parental influence in determining the fertility choice of the successive immigrants' generations in Germany. This result is consistent with the findings of Kulu et al (2015) and Schmid & Kohls (2009). They also found that fertility behaviour is declining for successive Turkish generations in Germany.

Figure 2: Fertlity level of immigrants by generation



Source: own computation from GESIS_ ZA 5957

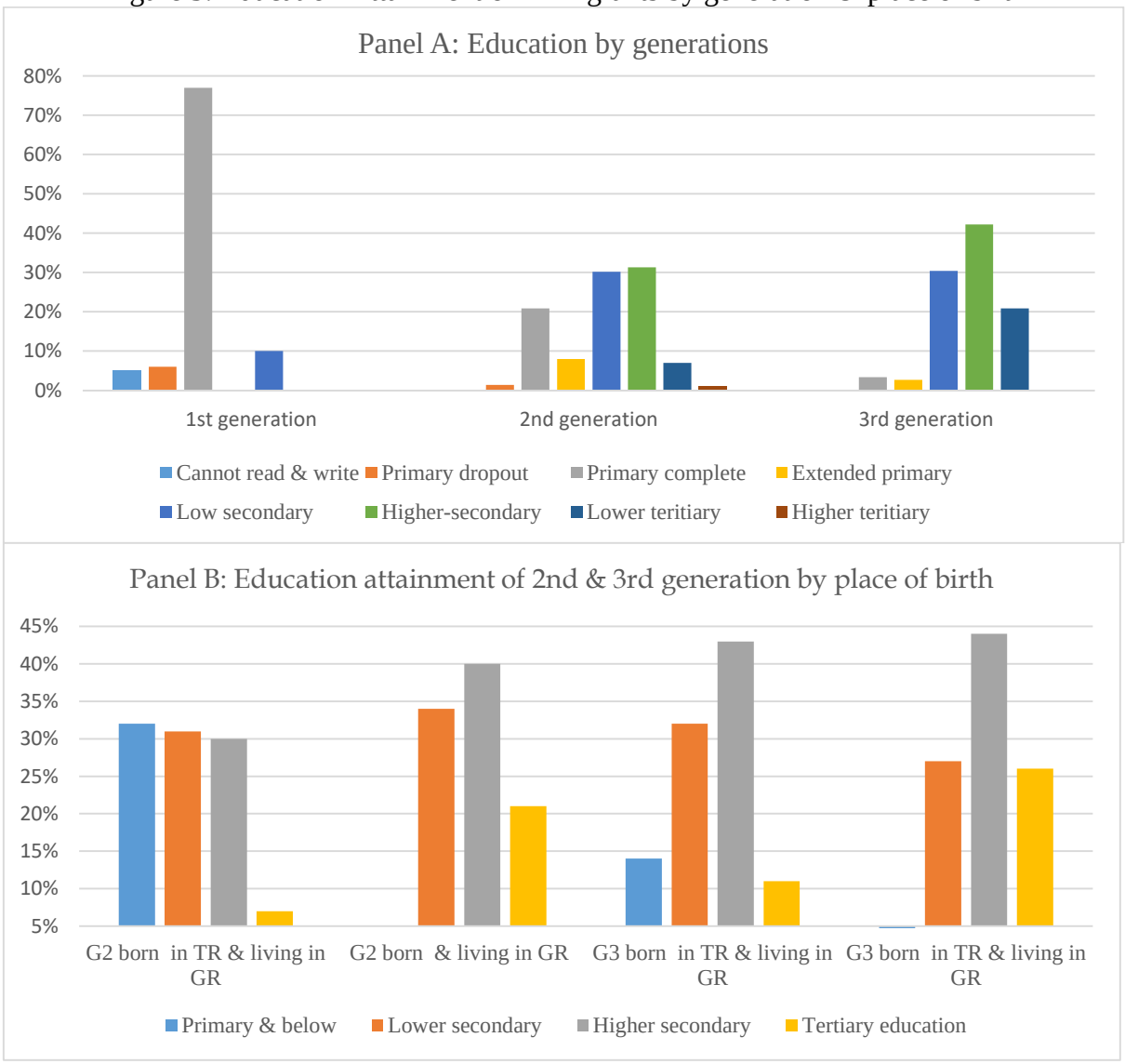
Table 1: Comparison of Fertilty and age by generation

	Average fertility	***Average age***	***Average education***	***A/age at first marriage***
G1 born in Turkey & living in Germany	***4.8***	***73.9***	*Primary complete (77%)*	***23.5***
G2 born in Turkey, but living in GR	***2.8***	***43.32***	*Lower-secondary (30.3%)*	***21.5***
G2 born & living in Germany	***1.8***	***33.4***	*Higher secondary ((34%)*	***24.5***
G3 born in Turkey, but living in GR	***1.9***	***28.4***	*Higher secondary (42.7)*	***20.9***
G3 born & living in Germany	***1.6***	***22.6***	*Higher secondary (43.3%)*	***22***

Source: Own computation from GESIS_ ZA 5957

c) Education level: Like fertility behaviour, the education attainment of the Turkish immigrants is asymmetrically distributed within different generations. As shown on figure 3, the education attainment of the first generation is skewed around primary education. This implies that first generations migrated to Germany with lower educational qualifications. It might be due to the nature of labour demand during the first wave of migration. Workers recruited to work in the industrial zone of western Germany during the first wave were relatively unskilled workers. However, second generations have shown better achievements relative their elder families. There is a substantial number of second generations who have completed low secondary and higher secondary education. On average, third generations have attained higher secondary education.

Figure 3: Education Attainment of Immigrants by generation & place of birth



Source: own computation from GESIS_ ZA 5957

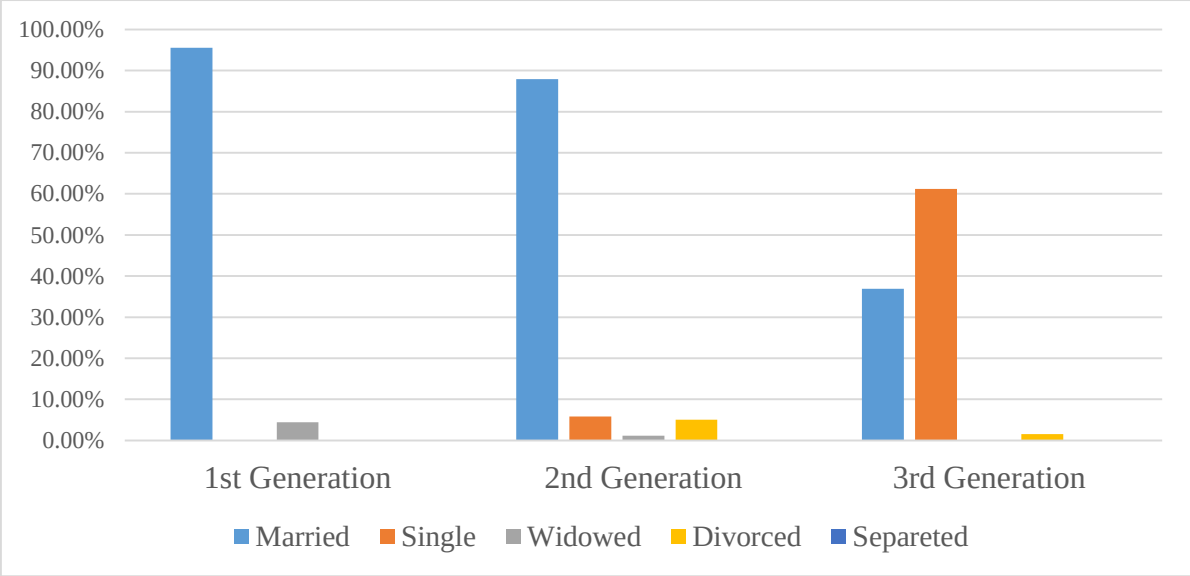
A key point to note from figure 3 is that the educational achievement of Turkish immigrant across generations is improving and converging to the hosting society's average value. According to the OECD report (2014), 86% of the German population has attained upper secondary education. Another important point to consider here is also the educational distribution across gender of immigrants. Among the first generations, there is no educational gap between men and women since, in this study, there were no women in the sample of first generation. Second generation women has attained high secondary while the majority of men have completed primary education. However, in the third generation, both have on average a high secondary education (see Appendix B). Therefore, the educational characteristics of immigrants over generations is converging to the average education of the hosting society. Another interesting point to note from panel B of figure 3 is that second and third generation Turkish immigrants who were born in Germany have relatively better education achievement than those who were born in Turkey. This implies that place of birth could influence the education achievements of immigrants.

Even though the educational attainment of Turkish immigrants over generations is improving, on average, it remains below the hosting society. Only 33% of them have attained upper secondary education while 28% of them have completed lower secondary and 12.5% have attained tertiary education. This discussion is also consistent with the findings of Guveli et al. (2016) in which they found that in all destination countries, Turks have lower educational outcomes than the native population. They argued that this difference in educational achievement is the result of socio-economic gap between the Turkish immigrants and native society. Kristen and N.Granto (2007) also described that the educational gap between second generation Turks and natives in the Netherland and Germany is associated with lower parental education and occupational status.

d) Marriage: The other relevant trait to consider in cultural transmission is the attitude towards family formation. From figure 4 below, around 70% of immigrants are engaged in family formation and only 26% of them have never married. The implication of the result is that each generation attaches more value to family formation than being lone/late marriage. The desire to engage in family formation by first, second and third generation was very large. Other indicators that reveal how much these immigrants value family formation include cohabitation, divorce and in partnership. The fractions of migrants who experienced such marriage characteristics are very low. All in all, there is a strong co-movement between the attitudes of parents and immigrant's generations on family formations. Among the three

generations, there is either low or no divorce rate and cohabitation before marriage within these immigrants.

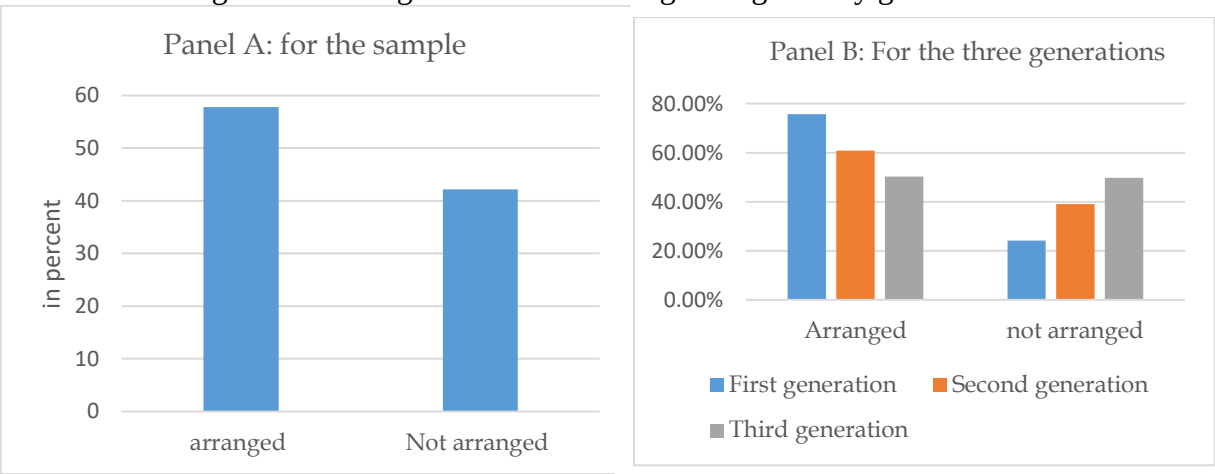
Figure 4: Marital Status of Immigrants by generations



Source: own computation from GESIS_ ZA 595

e) Marriage Mechanism: Arranged marriage is more typical to the Turkish immigrants. From the survey data, the majority of the immigrants were married through the traditional marriage arrangements. A marriage arrangement by family or relatives implies that there is family intervention in the decision of children concerning the choice of their spouse. The implication for cultural transmission is that parents might be altruistic in determining their children marriage decision. They intervene in the spouse choice of their children in order to make them either happy or to transmits their trait to their children. If children are free to make their spouse choice, they may deviate from their parents' cultural traits. Therefore, parents enforce their children to adopt their cultural traits through marriage arrangements. From the survey questionnaire, the question that immigrants were asked is ***"How did s/he get married to her/his current [last] partner? Was it an arranged?"*** From the respondent data, 58% of them have married through marital arrangement. It is high within the first generation followed by the second generation. As can be seen from figure 5, this tendency of arranged marriage is declining as we go from first to the third generations. In the third generation, the proportion of adults choosing their couple independently is large relative to second generation. However, it is difficult to generalise that its value is declining among second and third generation since they are on average still in young age.

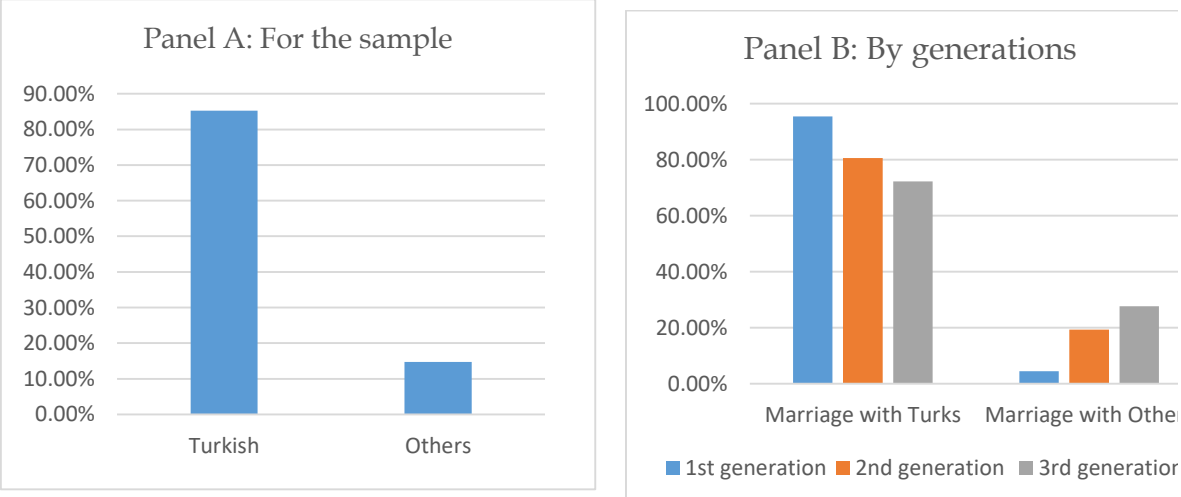
Figure 5: Marriage mechanism among immigrants by generations



Source: own computation from GESIS_ ZA 5957

Strong preference for cultural transmission is also revealed from the ethnicity of the spouse. As displayed on figure 6 below, almost all immigrants partner is from the same ethnicity. Specifically, 85% of the couples are from Turkish ethnicity and the remaining with German (around 3%) and other immigrants in Germany. There is also negligible intermarriage with ethnic groups like Kurdish and others (Hungarian, Bulgarian, Polish, Yugoslavia, Serbian, Chilean and Laz) whose cumulative share is less than 10%.

Figure 6: Marriage with Turkish and other ethnic groups



Source: own computation from GESIS_ ZA 5957

From figure 6, one can conclude that there is strong homogamous marriage within the Turkish immigrants. Therefore, the conclusion from figure 5 and 6 is that, within the Turkish community in Germany, the desire for cultural transmission through marriage is strong. Alternatively, it can be said that there is low tendency for integration in to the cultural norms of destination society in terms of marriage. From the survey data filtered for these trait, only

insignificant of the Turkish immigrants have formed marriage relation with the German nationals and other immigrants' ethnic group in Germany. This strong homogamous marriage more enhanced the parental socialisation process among this community. The result of this study is consistent with description of Bisin and Verdier (2000). They argued that parental socialisation effort is more effective when parents are homogamous than heterogamous in terms of some cultural traits.

f) Age at first Marriage: Early marriage is also another distinct characteristic of the Turkish people in Germany. As can be observed from table 2 below, there is early marriage tendency among Turkish immigrants. What is appealing more from the data is that the age at first marriage is almost uniform from the first generation to the third generation with insignificant variations. Even though there is early marriage within the second and third generations, it did not contribute to their fertility behaviour. As described on figure 2, the average number of children owned by second and third generations are 2.6 & 1.6 respectively. It should be also noted that second and third generations are still in the reproductive age during the survey period and the value can be subject to change if survey over generations is conducted in the future. One possible explanation for early marriage can be also the cultural attitude of the Turkish society towards marriage.

Table 2: Average age at first marriage by generation

Variable	Mean	St./dev.	Mini	Maxi
Age for the sample	21.9	4.3	15	54
Age for 1st generation	20.7	6.96	16	54
Age for 2nd generation	18.3	3.95	15	39
Age for 3rd generation	21.1	3.1	16	30
Age for G2, born in TR & living in GR	21.5	3.6	15	39
Age for 2nd generation born & living in GR	24.5	5.5	17	36
Age for G3, born in TR & living in GR	20.9	2.7	16	30
Age for 3rd generation born & living in GR	22	3.5	16	29
G2 women born in TR & living in GR	19.7	2.8	15	34
G2 women born & living in GR	20.5	2.7	17	28
G2 men born in TR & living in GR	22.4	3.6	16	39
G2 men born & living in GR	26.8	5.4	19	36
G3 women born in TR & living in GR	19.6	1.8	16	24
G3 women born & living in GR	19.7	4.5	16	28
G3 men born in TR & living in GR	22	3.0	18	30
G3 men born & living in GR	23.4	3.4	18	29

Source: own computation from GESIS_ ZA 5957

Parents intervene not only in the marriage decision of their children, but also influence their independent decision making behaviour in many ways. As displayed in table 3, there is strong link between children's independent decision making behaviour and family intervention in their decisions.

Table 3: Parental intervention in the children's independent decision making (in percent)

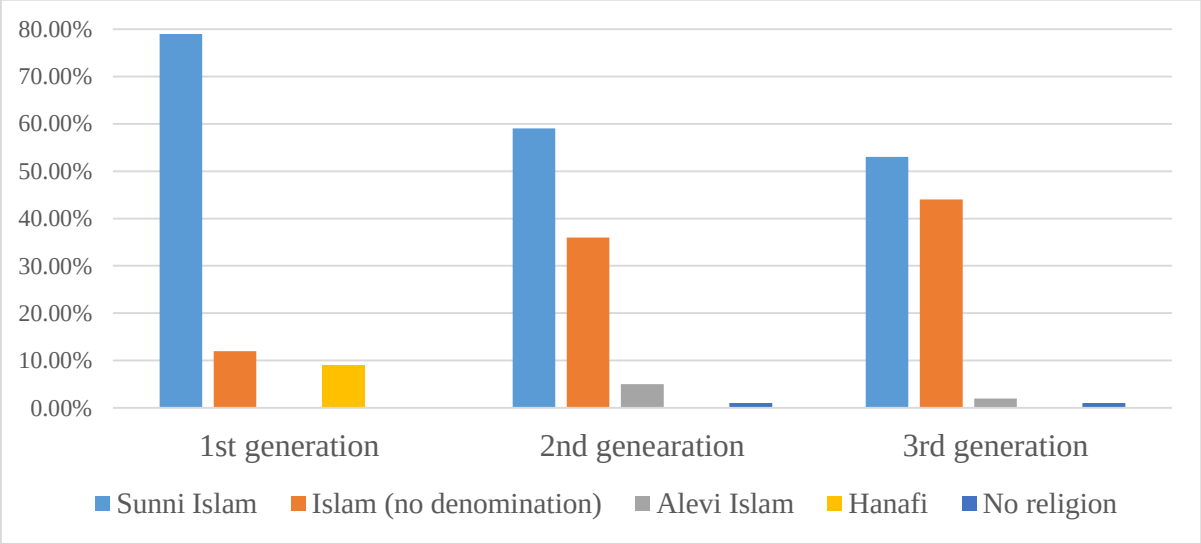
Opinion: Parents should have the final say in their children's choice. How do you agree?			
Response :↓	***1st Generation***	***2nd generation***	***3rd generation***
Somewhat	39.4	42.4	52.4
Strongly	51.5	53.7	42.9
Opinion: Whatever their parents think, children should be able to accept. How do you agree?			
Response :↓	***1st Generation***	***2nd generation***	***3rd generation***
Somewhat	21.2	32.97	25
Strongly	63.6	62.7	75
Opinion: Children should make every sacrifice necessary to look after their parents. How do you agree?			
Response :↓	***1st Generation***	***2nd generation***	***3rd generation***
Somewhat	21.2	21.7	25
Strongly	69.7	75.5	75
Opinion: A university education is more important for a boy than for a girl. How do you agree?			
Response :↓	***1st Generation***	***2nd generation***	***3rd generation***
Somewhat	21.9	11.3	4.4
Strongly	68.75	86.6	95.6
Opinion: On the whole, men make better business executives than women do. How do you agree?			
Response :↓	***1st Generation***	***2nd generation***	***3rd generation***
Somewhat	17.24	29.3	26.1
Strongly	65.5	64.4	60.87

Source: own computation from GESIS_ ZA 5957

From table 3, there is a strong transmission of attitude from the first generation to the third generation. Second and third generations showed strong preference in adopting their ancestor's attitudes on the gender role, independent decision making, leadership role and parental care. From this result, Second and third generations' possession of traditional attitude is unusual.

g) Religion: In theoretical and empirical literatures, religiosity is another important family's cultural trait that children inherit from them. Religion is very important to the Turkish immigrants. A majority of the immigrants have responded that religion is very important in their daily life and they attend religious services five times per day. They have also revealed their religiosity by abstaining from eating pork and drinking alcohol (*see appendix A*). From figure 7 below, the largest number of the Turkish immigrants in Germany reported being the follower of Sunni Islam denomination followed by just Islam without denominations. From the survey data, there is no significant difference between first, second and third generations in terms of their attachment to religion. From survey data, there is no respondent reporting atheist, deist and no religion. Therefore, it is possible to conclude that there is strong cultural transmission from parent to children in terms of religiosity among the Turkish immigrants.

Figure 7: Religious denominations by immigrant's generation

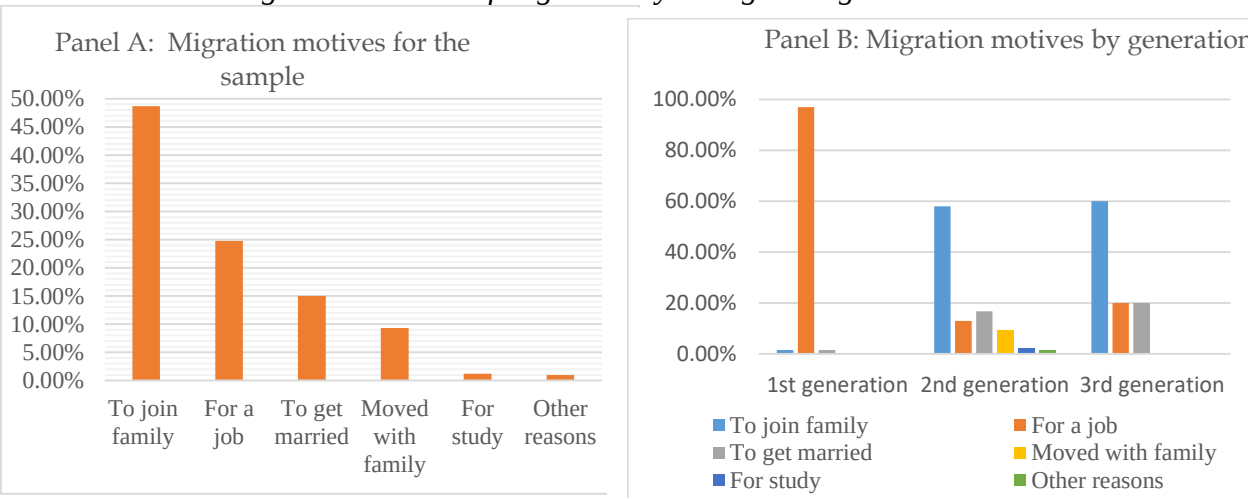


Source: own computation from GESIS_ ZA 5957

3.3.2 Immigrant's Socio-Economic Characteristics

i. ***Motive of Migration:*** From the survey data, a majority of the first generations were migrated to Germany to work. This is obvious, because first generations moved to Germany as a result of the bilateral agreement made between the German and Turkish governments to recruit young workers from Turkey. This fact is presented in figure 8 below. The average age of these first generations when they first moved to Germany is estimated around 28.73 years. This age bracket is the most productive stage in the human age life cycle. These productive adults were the first to move to Germany as a "guest worker".

Figure 8: Motives of migration by immigrant's generation



Source: own computation from GESIS_ ZA 5957

A majority of second and third generations moved to Germany for family reunifications. There is also a substantial number of second and third generations who migrated to join their spouse or to get married. The conclusion from figure 8 is that while first generations mainly migrated to Germany for the sake of job, second and third generations mostly moved for either family reunification or marriage.

ii. ***Occupation:*** Occupation characteristics are also important to consider among the Turkish immigrants. As shown by table 4 below, for those in the labour force, the majority of immigrants were employed in the private sector followed by self-employment. Another key point to notice from the data is that the unemployment rate among the Turkish immigrants is estimated at 7% which is larger than the average value in Germany during the survey year.

Table 4: Occupational Status of Immigrants by generation

Job type:	***First generation***	***Second generation***	***Third generation***
Self-employed	43%	11.5%	13%
Public employee	5%	6%	4%
Private sector employee	25%	79.5%	80%
Unpaid family job	27%	3%	3%
Total	**100**	**100**	**100**

Source: own computation from GESIS_ ZA 5957

What is most noticeable from the above table 4 is that the public sector employment of Turkish immigrants was very low relative to private and self-employment. One possible factor hindering their employment could be the lower education achievements of these immigrants. As described in the figure 3, a majority of the first and second generation Turkish immigrants were less qualified and on average they have completed primary and lower

secondary education. Even for the third generations who have relatively better education, participation in the public sector employment was very low. This evidence signals that there were some socio-economic forces prohibiting their integration in to the labour market. Some of these factors could be like the attitude of the employees towards Turkish immigrants, their interest to work in public sector, segregations in the labour market, poor proficiency of German language and other related factors. Their poor proficiency of German language is shown in table 6 below.

There are some studies that show reasons for poor integration of Turkish immigrants into the German labour market. For example, Margolis (2016) described that the Turkish integration in the labour market is lowest relative to any immigrants in Germany because of two main reasons: the "guest worker" temporary stay agreement and Germany's policy of integration. The guest worker bilateral agreement induced workers to segregate from the German ways of life. In some cities, guest workers were confined to workers dormitory. As a result, they were marginalized and faced discrimination. Since the workers were expected to return after a few years, the guest workers were not motivated and the German government also did not provide support to encourage them to learn the German culture and language

The second reason is that, until recent years, Germany's policymakers remained to consider Germany as non-immigrant country. Immigrants were considered as foreigners who do not belong to Germany. Citizenship was given only through ethnicity. Foreign born people were considered as residents, not citizens. This, in turn, discouraged Turkish people to integrate themselves into distant people. But in 2005, for the first time, Germany introduced a law that integrates immigrants in their culture and ways of life. Besides the above mentioned two factors, prejudice, stereotypes, employer's perception about their punctuality, loyalty and other traits are also sometimes considered as the constraining factors (Lodigiani, 2016)

iii. Immigrants Attachment to Turkey's Socio-cultural phenomena

One important key factor in cultural transmission is the influence of the degree of connectivity of the individual with similar cultural background. As explained in the theoretical literature, horizontal/oblique socialisation is one mechanism of cultural transmission. This section therefore attempt to present the influence of the peer, relatives and personal feeling in adopting a particular cultural trait.

Language proficiency (to speak and write) is one factor that shows the attachment of an individual to a given society's culture and ways of life. Table 5 shows how well the immigrants speak and write Turkish and German language. In terms of German language ability to speak, read and write; first generation immigrants are poor relative to second and third generations. However, there is a good progress over the successive generations. This could be due to the difference in age at first migration. The average age at first migration is 28.7, 14.25 and 13.6 years for first, second and third generations respectively.

Table 5: Language Proficiency of Turkish immigrants

	Speaking German			***Reading & writing German***		
	G1	***G2***	***G3***	***G1***	***G2***	***G3***
Very well	9%	21%	29%	3%	14%	29%
Well	47%	57%	61%	21%	57%	58%
Not very well	44%	21%	11%	47%	24%	13%
Not at all	-	2%	-	29%	5%	-
	Speaking Turkish language			***Reading & writing in Turkish***		
	G1	***G2***	***G3***	***G1***	***G2***	***G3***
Very well	29.4%	34.2%	34.2%	17.6%	21.4%	42.1%
Well	67.6%	64.3%	60.5%	61.7%	73%	47.4%
Not very well	2.9%	1.5%	5.3%	20.7%	5.6%	10.5%

Source: own computation from GESIS_ ZA 5957

In terms of language, there is strong attachment of the immigrants to the Turkish culture. Even as we go to the third generations, there is strong ability to speak and write Turkish language. Another thing to note from table 5 is that there is a gradual improvement in terms of German language proficiency. Therefore we can observe that, in the long run, there will be cultural heterogeneity rather than assimilation/convergence. Turkish descendants will continue to adopt both the German and Turkish language. This argument is consistent with the cultural diversity observed and discovered by several empirical papers conducted in the United State of America.

Immigrants' attachment can also be revealed from their internal feeling about their country in international contests. There is high degree of biasness among Turkish immigrants towards their country's representation on international competitions. For example, in table 6 below, they were asked to express their feeling on "In the Eurovision Song Contest, which country do you prefer to win?" Majority of them (89 %) replied that they would be happy if Turkey wins. Even when Germany plays with Turkey, almost more than 92% of all generations have responded that they would be happy if Turkey wins.

Table 6:Immigrants' national feeling in a international contests

Q: In the Eurovision Song Contest, which country do you prefer to win?			
R: Turkey	***1st Generation***	***2nd generation***	***3rd generation***
Response (R) rate in percent	78.79%	90.91%	91.67%
Q: When Germany plays Turkey at football, which team do you prefer to win?			
R: Turkey	***1st Generation***	***2nd generation***	***3rd generation***
Response (R) rate in percent	93.94%	94.65%	95.83%
Q: Where do you want to be buried?			
R: Turkey	*1st Generation*	*2nd Generation*	*3rd Generation*
Response (R) rate in percent	100%	96.26%	100%

Source: own computation from GESIS_ ZA 5957

Therefore, this high feeling of nationalism may enforce them to less integrate in to the German culture. They also expressed their feeling on where to be buried when they die. Again, almost all of the respondents have told that they would prefer to be buried in the soil of their country of origin.

It can be noticed from table 7 below that Turkish immigrants mostly spend their time with their fellow Turkish people rather than with the German nationals. Accordingly, horizontal socialisation from peer and Turkish nationals acts as complement to the parent's socialisation effort. Therefore, Turkish descendants in Germany tend to socialise their children more towards their own cultural traits than that of the hosting country. Similarly, the interaction/friendship of Turkish immigrants with German nationals shown somehow little improvement across generations. In the long-run, the complementarity of parental and oblique socialisation will lead to the presence of multiculturalism in Germany.

Table 7: Turkish immigrant's relation to Turkish & German nationals

Q: What portion of your friends is Turkish or from Turkey?			
Response (R) rate	***1st Generation***	***2nd generation***	***3rd generation***
All of them	66.67%	33.69%	50.00%
More than half of them	9.09%	34.22%	25%
About half	9.09%	13.9%	16.67%
<half but > quarter	-	2.67%	4.17%
None	-	0.53%	-4.17%
About a quarter	9.09%	12.83%	
Q: How closely do you feel connected with German nationals?			
Response (R) rate	***1st Generation***	***2nd generation***	***3rd generation***
Not all connected	15.15%	16.58%	8.33%
Hardly connected	15.15%	9.63%	-
Somewhat connected	42.42%	59.89%	79.17%
Mostly connected	15.15%	9.09%	12.5%
Entirely connected	9.09%	3.21%	-

Source: own computation from GESIS_ ZA 5957

3.3.3 General comparison on some characteristics

Comparison of Turkish immigrants with the hosting country and their country of origin on the basis of some cultural traits shows the existence of cultural deviations. The result of the survey as displayed in table 8 below shows that there is not much variation in terms of age at first marriage between the Turkish migrants and non-migrants. However, there is huge gap between German natives and Turkish people in terms of age at first marriage. There is also early marriage for non-migrant Turkish female relative to those migrants in the Germany. For non-migrant, a women gets married almost when she is at the adolescent age (15 years on average). However, Turkish immigrant female in Germany marry on average at age of 22 years old. Similarly, the age gap between female and male immigrant at first marriage is around three years and it is around 8 years for non-migrants.

In terms of fertility behaviour, the immigrants in Germany were found to have higher fertility preference than the non-migrant and internal migrants within Turkey. This can be the result of income effect of better living condition in Germany than Turkey. The form of arranged marriage is also found to be slightly higher among peoples in Turkey than immigrants in Germany. But still, the share of immigrants who marry through marriage arrangement in Germany is higher. This might be due to the immigration ban imposed after 1980s to reduce the flow of immigrants to Germany. After that ban, the most common way to move to Germany was through marriage and family reunification.

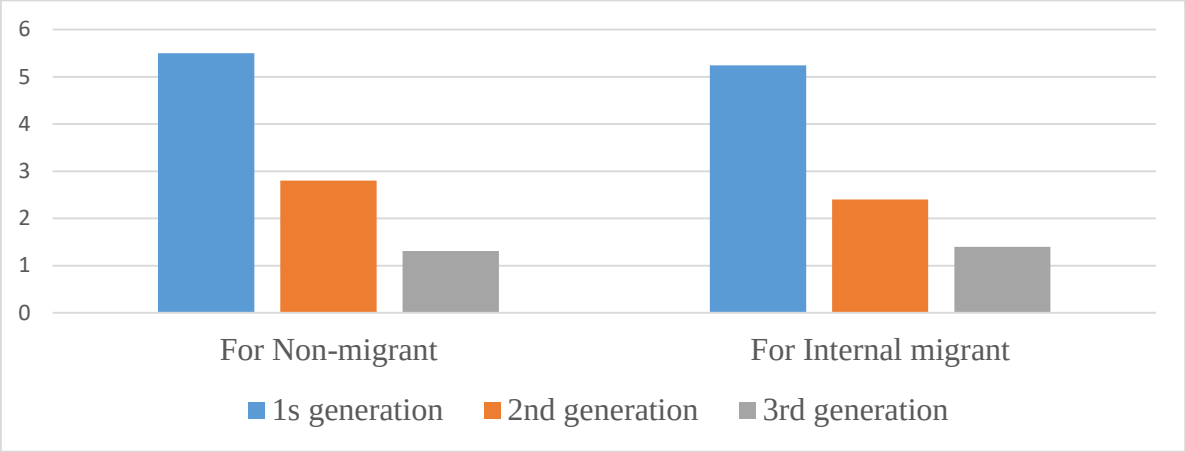
Table 8: Comparison between non-migrant, migrant and hosting society's culture

Variable	***For Non-migrant***	***For Internal migrant***	***For Immigrant***	***For Hosting society***
i. ***Average Fertility per women***	2.3	2.1	3	1.4
ii. Average age at first marriage (year)				
• *Male*	23.1	23.2	22.03	33.4*
• *Women*	15.6	21.3	21.6	30.9*
• *Average*	21.6	22.3	21.75%	32.2*
iii. Arranged marriage	61.3	61.4%	57.8%	NA
iv. Education attainment	Primary	Primary	U/secondary	Upper secondary

Source: own computation from GESIS_ ZA 5957 &
** denote data taken from worldatlas.com*

In terms of education, there is not much difference between non-migrants, internal migrants and immigrants in Germany. On average, Turks in Turkey have attained primary education while immigrants in Germany achieved upper secondary. However, relative to the German nationals, Turkish immigrant and non-migrants are left far behind

Figure 9: Comparison of internal migrant's and non-migrant's fertility in Turkey

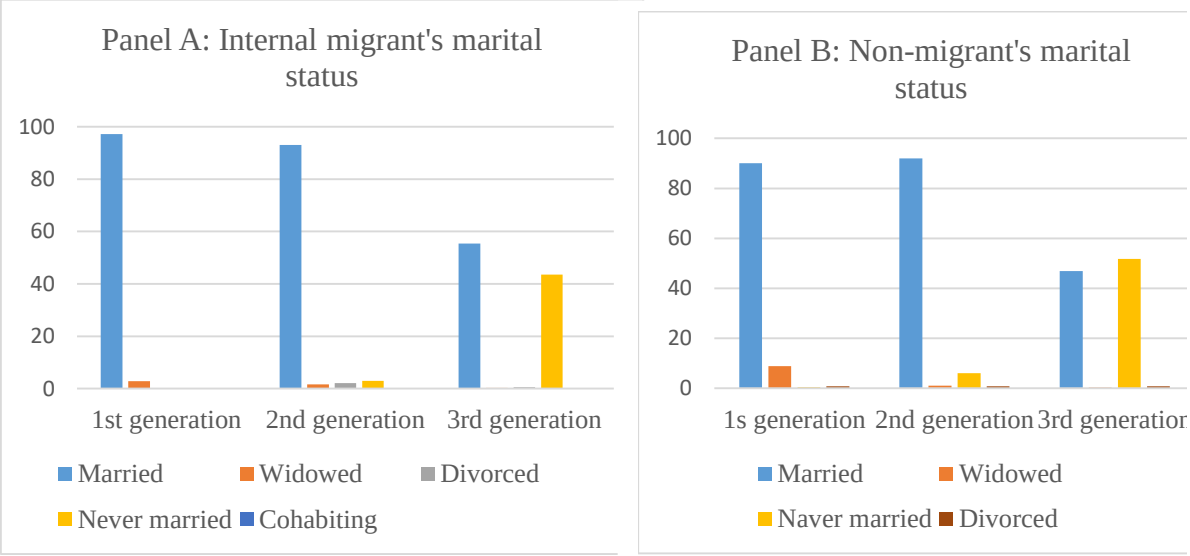


Source: own computation from GESIS_ ZA 5957

From figure 9, we can roughly see that fertility is declining from first to third generation for both internal migrant and non-migrant in Turkey. It follows the same pattern as described on figure 2 for immigrants in Germany. The implication might be that the observed decline in second and third generation's fertility in both case is more explained by the age structure of the respondents than the fertility decision of parents. For Turks in Turkey and immigrants in Germany, the second and third generations are in the reproductive age group. Therefore, these result can be be different if further investigation is conducted in the future for successive generations. However, the gap between the Germany's rate and the average for Turkey's people are remarkable.

Similarly, the marriage characteristics of respondents in Turkey is quite similar with that of immigrants in Germany. On average, more than 60% of them are engaged in family formation. Like that of immigrants, as displayed on figure 10 below, the divorce rate and cohabitation is rare among the internal migrant and non-migrants. However, in the third generations, there are substantial people who have not engaged in family formation. This again align with the argument that majority of second and third generations are still in the reproductive age group. Therefore, in terms of marriage characteristics, Turkish immigrants in Germany and Turks in Turkey share almost the same character.

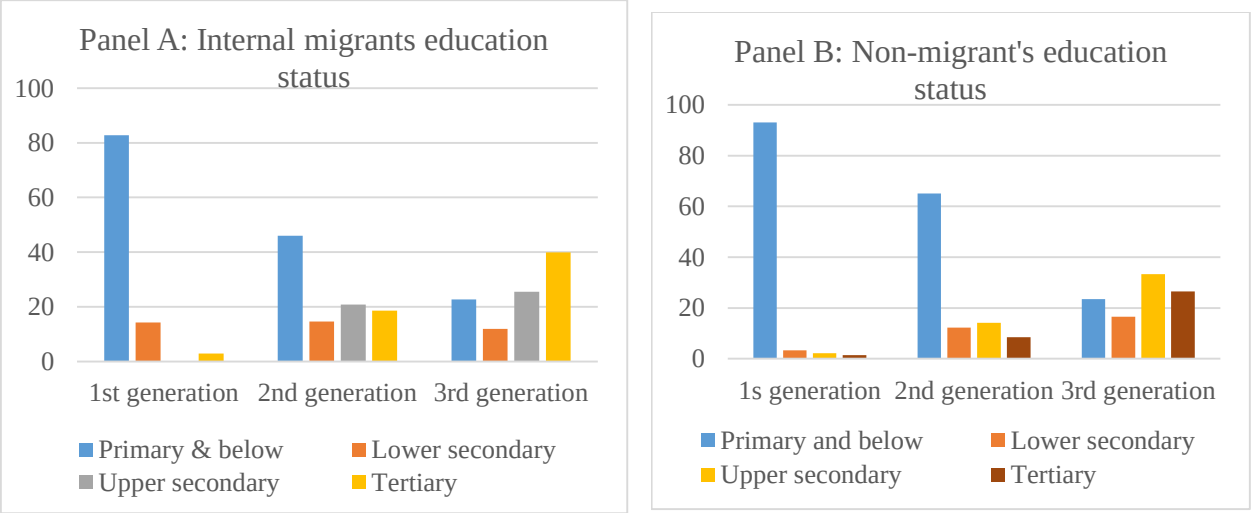
Figure 10: comparison of internal migrant's and non-migrant's marital status



Source: own computation from GESIS_ ZA 5957

In terms of education too, there is slight difference among the Turks in Turkey and immigrants in Germany. From figure 11 below, majority of internal migrant's first and second generations Turks in Turkey have completed primary education. However, third generations are more qualified (are in tertiary education) than their predecessors. Third generation internal migrants have better education achievements than non-migrants. This implies that better educated people are internally more mobile than less educated. They can easily move within the country in order to find a better paying job. But, third generation immigrants in Germany has achieved upper secondary. This may be due to poor educational background of parents, cost of education, work versus education preference of immigrant and the type of job that immigrant works in Germany

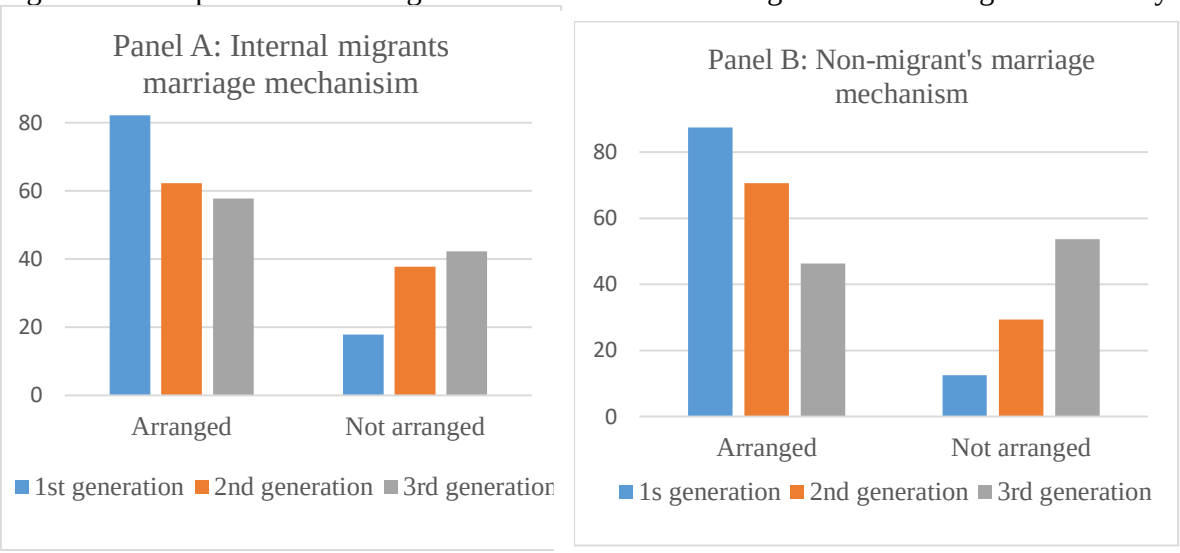
Figure 11: Comparison of internal migrant's and non-migrant's education status



Source: own computation from GESIS_ ZA 5957

Marriage arrangement is also critical to the Turkish people in Turkey. As shown on figure 12 in both panel, marriage arrangement is higher among the first generation. But, it is gradually declining in both internal migrant and non-migrant case. The pattern is similar with that of immigrants in Germany (see figure 5). The decline in marriage arrangement among the Turkish people may be due to the influence of globalisation on the attitude of the community.

Figure 12: Comparison of marriage mechanism for internal migrant and non-migrant in Turkey



Source: own computation from GESIS_ ZA 5957

3.4 Regression Analysis

Cultural traits are adopted from parents or community with a certain probability. Therefore, to model intergenerational cultural transmission in this paper, the logit model was adopted. The choice of this model is due to its familiar use in cases of limited dependent variables and aligns with the description of Bisin & Verdier, in which cultural transmission to generations is made with certain probabilities. Following (Gujirati 2004), the logit model is specified as follows:

$$P_i = E(Y = 1 \mid X_i = \frac{1}{1 + e^{-(\alpha+\beta_i X_i)}} = \frac{1}{1 + e^{-Z_i}} = \frac{e^Z}{1 + e^Z}$$

Where $Z_i = \alpha + \beta_i X_i, Y$is the dependent variable (arranged marriage in this study), β_i & X_i are vectors of parameters and explanatory variables respectively.

The marginal effect of each explanatory variable on the outcome variable in the logistic distribution is then given as;

$$\frac{\partial P}{\partial X_i} = \frac{dP}{dZ}\frac{\partial Z}{\partial X_i} = \frac{e^{-Z}}{(1 + e^{-Z})^2}\beta_i$$

The marginal effect is not constant because it depends on the value of Z, which in turn depends on the values of the explanatory variables. A common procedure is to evaluate it for the sample means of the explanatory variables or for a median individual or for specific values of the variables. In this paper, I preferred to use the means of the explanatory variables in the case of the continuous variables to evaluate the marginal effect of each variable (discrete change in case of dummy variables).

3.4.1 Description of Variables used in the model

For this study, I prefer to focus on the intergenerational transmission of one trait (marital arrangement). Therefore, marriage arrangement is the dependent variable and it is a categorical variable having a value one (=1) if the respondent married through marriage arrangement and zero if not. Again, thirteen explanatory variables are identified for the regression analysis including the interaction terms. These includes;

i. ***Gender:*** It is included as a dummy variable having value one for male respondent and zero for female.
ii. ***Generation type***: in the Turkish immigrants, there are three generations; first, second and third generations. First generations were selected as a reference group while second and third generations were included as a dummy variable. They were also included as interaction term with gender.
iii. ***Duration of stay in Germany:*** years of stay in Germany was also expected to influence the dependent variable. To take into account the diminishing marginal return of this duration of stay, squared duration of stay was also included as one variable.
iv. ***Age at time of migration:*** it is included as a continuous variable (measured in years). An individual who moved as a child and adult is expected to behave differently in the choice of couple. So, an individual who migrated during adult age is more likely to get married through marriage arrangement than when he/she migrate during child age.

Control variables: Education and religion were included as the control variables.

v. ***Education:*** It is included as dummy variables. People who attained primary and below were taken as a reference group while people who have completed low secondary, high secondary and tertiary were included as a categorical variable.
vi. ***Religion:*** It is also included as a control variable and it is entered as a dummy variable. Muslims without denomination were taken as a reference group.

3.4.2 Discussion of Regression Result

The result of the regression model for the 13 explanatory variables with their interaction terms are presented in the table 10 below.

Table 9: Regression result on the probability of being married through marriage arrangement

	(1)	(2)	(3)	(4)	(5)
Gender	0.0098 (.04116)	0.0068 (0.0412)	0.0035 (0.0415)	0.0030 (0.0416)	0.0065 (0.0418)
Second generation	-	-0.1773* 0.0882	-0.1804* (0.0883)	-0.1810* (0.0894)	-0.1889** (0.0889)
Third generation	-	-0.0705 (0.0696)	-0.0728 (0.0699)	-0.0757 (0.0702)	-0.0792 (0.0694)
Second generation male	-	-	0.1291 (0.1302)	0.1306 (0.1299)	0.1381 (0.1283)
Third generation male	-	-	0.0862 (0.1395)	0.0816 (0.1393)	0.0755 (0.1377)
Duration of stay	-	-	-	-0.0173*** (0.0089)	-0.0159*** (0.0089)
Square of the duration of stay	-	-	-	0.0003*** (0.0002)	0.0003*** (0.0002)
Age at migration	-	-	-	-	0.0053** (0.0027)
Lower secondary education	-0.0520 (0.0493)	0.0240 (0.0651)	0.0247 (0.0651)	0.0284 (0.0661)	0.0595 (0.0685)
Upper secondary education	-0.1969* (0.0472)	-0.0981 (0.0740)	-0.0981 (0.0740)	-0.0912* (0.0752)	-0.0531 (0.0782)
Tertiary education	-0.2851* (0.0763)	-0.2250* (0.0842)	-0.2271* (0.0841)	-0.2120* (0.0855)	-0.1580*** (0.0912)
Sunni Islam	0.0271 (0.0636)	-0.0397 (0.0716)	-0.0417 (0.0716)	-0.0461 (0.0714)	-0.0600 (0.0710)
Hanafi / Shafi followers	0.1239 (0.0788)	0.1021 (0.0750)	0.1007 (0.0749)	0.0825 (0.0762)	0.0788 (0.0752)
Number of obs	636	636	636	636	636
LR chi2(6)	28.32	31.99	32.98	36.88	40.94
Prob > chi2	0.0001	0.0001	0.0003	0.0002	0.0001

significant at 1% ** significant at 5% * significant at 10%*

Values in parenthesis are standard errors

From the regression output in table 9, the difference in marriage arrangement between male and female respondents is very low and insignificant. Men are around 0.01 more likely to engage in arranged marriage than women and their difference is insignificant. The implication of this result is that both men and women of Turkish immigrants' have engaged in arranged marriage in an almost similar manner during the survey period.

Relative to first generations, second and third generation immigrants are found to be less likely to be married through marriage arrangements. Second generations are 0.2 less likely to be married through marital arrangement than first generations and the difference is significant

at all levels of significances. Similarly, third generations have a lower likelihood to be married through marriage arrangement than first generation, but the difference is insignificant. From the interaction terms, second and third generation male have more likelihood of being married on arranged basis than the respective generations female counterpart. Therefore, male respondents in all generations are more likely to be married through marriage arrangements than female respondents in the three generations. This could be due to the fact that men are more eager to comply with cultural and religious ideals or may be to strengthen family links than women among Turkish immigrants.

Duration of stay in destination country also significantly influence the probability of being married on arranged basis among the Turkish immigrants. A short duration of stay reduces significantly the likelihood of being married on arranged basis. However, a longer duration of stay increases the probability of being married on arranged basis and the value is statistically significant, but it is economically insignificant. This implies that the probability of being married on arranged basis as a function of duration of stay at Germany is strictly concave. The shorter the duration of stay, the less likely that an immigrant marry on arranged basis will be. Similarly, the age at migration time also significantly increased the probability of being married on arranged manner. This implies that if someone immigrates when he/she is older, he/she is more likely to be married through arranged marriage than if she immigrates when she's young.

Education attainment of the immigrant is also another trait found significant in this study. Relative to immigrants with primary and below education, those who attained upper secondary and tertiary education consistently reduced the likelihood of being married on the arranged manner. Tertiary education attainment significantly and negatively influenced the likelihood of being married on arranged basis. However, lower secondary education changes sign after more and more explanatory variables are included in the model. A possible justification for this negative relationship might be that better educated people spent most of their time on schooling and might find their own spouse during schooling together with no/lower family intervention. Religion is also another factor that influences the chance of marital arrangement. Relative to Muslim without denomination, Sunni Islam followers are less likely to marry on arranged basis while Hanafi and Shafi followers have more probability of being married on arranged basis. Sunni Islam followers might be less strict in couple choice than Muslim without denominations. However, the coefficients are not significant.

In general, in line with the result of descriptive statistics, the result of the regression shows intergeneration transmission of arranged marriage practice significantly declined in the second generation compared to first but not in third. This might be due to small size of second generation in the sample survey relative to second generation. Similarly, male respondents are more likely to marry on the basis of arranged marriage in all the three generations.

3.5 Conclusion

The main objective of this study was to investigate the cultural transmission among the Turkish people in Germany. Specifically, the study focused on the marriage, fertility, educational attainment and labour market participation of these immigrants over three generations. To achieve these objectives, data obtained from GESIS survey collected from 2010-2012 was analysed using descriptive and regression method of analysis. The main result of the study indicates that there is strong cultural transmission mechanism among Turkish immigrants in terms of homogamous marriage, language and religion among Turkish immigrants in Germany. The result implies that Turkish immigrants have been exerting more socialisation effort in terms of spouse choice in the marriage market and religion in order to transmit these traits to their children. But, in terms of fertility, education and marital arrangement there is a tendency to converge towards the hosting society's norms.

The result of this study support the existing literatures about the cultural heterogeneity observed across countries. There are some cultural traits that immigrants will preserve in the future and traits that converge to the hosting societies. Most of the existing literatures written in the USA and Europe describes that there would be persistent cultural diversity in terms of religion and marriage choices. In this study too, there is cultural diversity over generations in terms of religion, marriage choice and language. This result is consistent with the previous studies like Herberg (1955), Glazer and Daniel (1963), Mayer (1979), Borjas (1995), Crul et al (2012), Inken & Wilmes (2015) and Penn & Paul (2009) which show the existence of multiculturalism in terms of religious, ethnic, language and other traits in the USA and Europe. However, consistent with the results of Stichnoth & Yeter (2013) and Kulu et al (2015), fertility behaviour of Turkish immigrants is in transition towards the Germany's level. However, it is impossible to totally conclude as fertility is declining over successive generations since the two generations are still in reproductive age during the survey period.

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Appendix A: Religiosity indicators /attachment

M:L2. How important is religion to the way you live your life?

Is it ...	Freq.	Percent	Cum.
Very important	126	51.43	51.43
Important	109	44.49	95.92
Neither important nor unimportant	5	2.04	97.96
Fairly unimportant	4	1.63	99.59
Totally unimportant	1	0.41	100.00
Total	245	100.00	

M:L3. How often do you attend services or go to a place of worship?

Read out.	Freq.	Percent	Cum.
Every day	27	11.02	11.02
Once a week	109	44.49	55.51
Around once a month	16	6.53	62.04
Only in special holy days	64	26.12	88.16
Less often	16	6.53	94.69
Never	13	5.31	100.00
Total	245	100.00	

M:L4. Apart from religious services, how often do you pray (namaz)?

Read out.	Freq.	Percent	Cum.
-99	1	0.41	0.41
-98	1	0.41	0.82
Five times a day	68	27.76	28.57
Every day	45	18.37	46.94
Once a week	54	22.04	68.98
At least once a month	6	2.45	71.43
Only on special holy days	41	16.73	88.16
Less often	6	2.45	90.61
Never	23	9.39	100.00
Total	245	100.00	

M:L5. How often do you do volunteering work for religious organizations such as

	Freq.	Percent	Cum.
-99	5	2.04	2.04
Every day	3	1.22	3.27
Around once a week	25	10.20	13.47
Around once a month	88	35.92	49.39
Less than once a month but more than on	75	30.61	80.00
Less often	33	13.47	93.47
Never	16	6.53	100.00
Total	245	100.00	

M:L6. Do you wear a headscarf?

	Freq.	Percent	Cum.
Missing: not in Main	57	42.86	42.86
Yes	35	26.32	69.17
No	37	27.82	96.99
Sometimes	4	3.01	100.00
Total	133	100.00	

M:L7. Do you eat pork?	Freq.	Percent	Cum.
Yes	1	0.41	0.41
No	243	99.18	99.59
Sometimes	1	0.41	100.00
Total	245	100.00	

M:L8. Do you drink alcohol?	Freq.	Percent	Cum.
-99	2	0.82	0.82
Yes	20	8.16	8.98
No	207	84.49	93.47
Sometimes	16	6.53	100.00
Total	245	100.00	

Appendix B: Educational Attainment by sex

i. Second Generation Women

P: What is the highest level of education s/he obtained [or still follow]?	Freq.	Percent	Cum.
Don't know	10	2.58	2.58
Primary dropout	3	0.77	3.35
Primary completed	118	30.41	33.76
Low secondary	96	24.74	58.51
High secondary	133	34.28	92.78
Low tertiary	8	2.06	94.85
High tertiary	20	5.15	100.00
Total	388	100.00	

ii. Second Generation Men

P: What is the highest level of education s/he obtained [or still follow]?	Freq.	Percent	Cum.
Don't know	3	1.33	1.33
Primary dropout	1	0.44	1.78
Primary completed	103	45.78	47.56
Low secondary	47	20.89	68.44
High secondary	50	22.22	90.67
Low tertiary	11	4.89	95.56
High tertiary	10	4.44	100.00
Total	225	100.00	

iii. Third Generation men

P: What is the highest level of education s/he obtained [or still follow]?	Freq.	Percent	Cum.
Don't know	12	9.60	9.60
Primary completed	21	16.80	26.40
Low secondary	15	12.00	38.40
High secondary	59	47.20	85.60
Low tertiary	8	6.40	92.00
High tertiary	10	8.00	100.00
Total	125	100.00	

iv. Third Generation Women

P: What is the highest level of education s/he obtained [or still follow]?	Freq.	Percent	Cum.
Don't know	5	4.72	4.72
Primary completed	31	29.25	33.96
Low secondary	16	15.09	49.06
High secondary	35	33.02	82.08
Low tertiary	6	5.66	87.74
High tertiary	13	12.26	100.00
Total	106	100.00	